THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. XLIV. SATURDAY, APRIL 5, 1884. No. 14.

ORIGINAL LECTURES.

ON THE TREATMENT OF TYPHOID FEVER.

A Clinical Lecture.

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(Concluded from page 353.)

GENTLEMEN: I pass now to the study of germicide medication. You already well know that a great number of antiseptic medicaments have become, by their therapeutic application, antipyretic medicaments; this is what has happened in the case of many substances derived from the aromatic series. It remains for me now to speak of medicaments which, while possessing an evident antiseptic action, have not, at the same time, any effect on the temperature.

It is thus that there have been successively applied to the treatment of typhoid fever, creasote by Pecholier and Morache, iodine and the iodides by Aran, Magonty, and Wilbrand; a combination of iodine and carbolic acid by Roberts Bartholow and James C. Wilson; chlorine and the hypochlorites by Chomel and Beaufort; the sulphites and hyposulphites by Polli; preparations of copper by Burq and Moricourt; mercurial preparations (the black sulphuret) by Serres; and calomel by Wunderlich and Liebermeister, also by Bartholow and Wilson in America. I shall not dwell further on these antiseptic preparations, this medication not being established on a scientific basis; for, if by the introduction of antiseptic substances it has been possible to disinfect the stools, it has been impossible to arrest the course of the disease, that is, to prevent the development and penetration of the micro-organisms into the entire economy.

Calomel, which terminates this long series of antiseptic medicines, belongs rather to the evacuant than to the parasiticide medication, and will serve as a bond of union between the two. The idea which gave rise to the evacuant medication was perfectly just, especially at the time when this medication was first instituted. In fact, we have seen De Larroque maintain since 1832 that it is in the fecal matters that the septic element of the disease is found, and that it is necessary, in order to prevent the poisoning of the entire organism, to eliminate these septic matters by stool. You have seen that experimental physiology has justified this view of the subject; only, in their haste to eliminate the peccant principle, the founders of the evacuant method have gone a little too far, and have not hesitated to give every day an ounce of castor oil or a bottle of Seidlitz water. Carried to this extreme, the purgative method is rather injurious than useful; it weakens the patient, and, by exaggerating the peristaltic movements of the diseased intestine, it may be the exciting cause of hemorrhage or of perforation. Utilized in moderation, however, the evacuant method is a serviceable adjuvant to treatment, promoting elimination of putrescent matters.

It remains for me to speak of the tonic and empirical medication. The tonic medication is now universally popular, and in order to repair the incessant losses which the organism undergoes from the exaggerated combustions which the febrile process determines, preparations of quinine have been employed, and, along with suitable alimentation, alcoholic stimulants.

I shall not repeat what I said about alimentation while on the hygienic treatment of typhoid fever, nor shall I dwell further on preparations of bark, only pointing out this fact, that the potions containing the soft extract of cinchona, which are so much administered in these cases, often pass through the alimentary canal without undergoing any modification; and in many instances I have found in the stools of my patients almost the whole of the extract which I had given them. But I must devote a little more time to a consideration of alcohol.

Since the works of Todd in England, and those of my master, Behier, in France, the use of alcohol in this fever has acquired great vogue, and I have already spoken of the advantages and disadvantages of this medication, while on the treatment of pneumonia. In typhoid fever, alcohol does not act as an antipyretic, and if you wish to lower the temperature by this agent, you will have to give such large quantities of it that the treatment will be more dangerous than useful; but, given in proper doses, alcohol acts as a tonic, and, moreover, diminishes that process of denutrition which results from exaggeration of the combustions; this is its great utility.

To those who adopt the opinions of Lallemand, Perrin, and Duroy, it is very difficult to explain this waste-restraining action, because, in their belief, alcohol does not undergo any transformation in the organism. According to the hypothesis which I have defended, and which seems to-day experimentally demonstrated, this kind of effect is quite readily explicable. I maintain, in fact, that alcohol, in presence of oxyhæmoglobin, and by virtue of the feeble bond which in this substance unites oxygen to hæmoglobin, appropriates the oxygen, and, transforming this oxyhæmoglobin to reduced hæmoglobin, modifies and arrests in a certain measure the oxidation of the tissues of the economy.

Todd, Murchison, Fourrier, and Autellet have shown us the good effects of the alcoholic medication in typhoid fever. Notwithstanding the advantageous results claimed, I do not believe that we ought, following the example of Jaccoud, to give alcohol to all our typhoid patients indiscriminately; and I believe that it is best to reserve this remedial agent for certain cases which I shall soon have occasion to describe.

By the side of alcohol we should place that triatomic alcohol known under the name of glycerine, which Semmola has administered with good effect in fevers, and which you may utilize advantageously

under the form of glycero-tartaric lemonade in your practice.[1]

I shall have finished this long series of medicaments and medications when I have spoken to you of ergot of rye, which is recommended by Duboué. Basing himself on physiological data, very ingenious but rather hypothetical, this authority advances the opinion that the typhoid virus affects particularly the muscular contractility, and especially that of the arterioles, and it is this paralysis of the vaso-motors which constitutes the essence of typhoid fever. To this want of contractility he opposes medicaments which have the property of augmenting the tone of the bloodvessels, and, in particular, ergot of rye. The trials which I have made with this treatment have not given any positive results, and I believe that if the spurred rye and its derivations are ever indicated in this disease, it is to combat the intestinal hemorrhages which so often occur.

In this therapeutic arsenal, the richness of which I have just shown you, physicians have chosen arms of various kinds, sometimes a single weapon, sometimes several, with which to fight abdominal typhus, and have thus constituted single medications and complex medications, and, according as they have applied them exclusively to all cases of dothinenteritis or as they have varied them according to circumstances, they have made thereof exclusive medications, or medications according to the indications. Lastly, another group of physicians have thought that by the unaided efforts of nature, typhoid fever ought to end in recovery, and have applied to the treatment of this disease the doctrine of expectancy. Hence we have these three systems of treatment: exclusive medication, expectancy, and medication according to indications. I cannot too much protest against exclusive medication, whether in typhoid fever or in any other disease. One patient is never just like another patient, and it is absurd to suppose that the practice of medicine can be summed up in a simple breviary, containing on the one hand the description of the disease, and on the other the therapeutic formula that will cure it. Age, sex, state of the vital forces, the symptomatic aggregate, above all the genius of the epidemic, modify the disease in its totality, and at every step in its evolution.

The science of the physician consists in modifying the treatment according to the divers circumstances, and it is from this fact that results that intimate union which I regard as so indispensable, of clinical medicine and therapeutics. Do you believe that in a case of typhoid fever the disease is the same in an infant as in an old person? Do you believe that grave cases can be assimilable to light cases? Do you believe that benign epidemics are suitable for comparison with malignant epidemics? Do you believe, in a word, that one same therapeutic formula, rigorous and uniform, can be made applicable to all cases indiscriminately, and that we can thus reduce to a same level, all forms of the disease?

I know well that the partisans of the exclusive treatment, whether single or complex, pretend to reduce all cases of the disease to one and the same type, but this is only an assumption which is not supported by the facts, and as Professor Vulpian says with so much justice, we have not as yet found a kind of treatment which is sure to modify the march of this disease and arrest its course. There are physicians who pretend to have methods which jugulate typhoid fever; but when we come to examine attentively all these so-called jugulating medications, we perceive that to obtain all the benefits which they promise, they must be applied in the first seven days of the disease, that is to say, in a period in which one is almost sure to confound simple gastro-intestinal irritation (*embarras-gastrique*) with typhoid fever. It is these same physicians who have called to the support of their doctrine of jugulation, the mild forms of typhoid fever described by Jules Guerin, and which the Germans have treated under the name of typhus-levissimus, and in which one sees the malady undergo its evolution in from twelve to fifteen days; but these are natural forms of the disease and not the result of modification by therapeutic means.

There is no such thing in existence as expectancy, properly so-called, applied as a medical or therapeutical system, for physicians who boast of employing this method take all due pains, nevertheless, to surround the patient with all the hygienic care which his situation demands, and to attend to the hygiene of your patient is not to deprive him of therapeutic aid, but to render him excellent therapeutic service. But often these hygienic attentions are insufficient, and more active intervention is required, and you must then resort *secundum artem* to the medication according to indications which I have styled armed expectancy. This expression, *armed expectancy*, has given rise to much criticism. Germain Sée has condemned it as "revolutionary." I do not consider that it has this signification, and if our interference is demanded, it is not to effect any violent changes in the economy, but to calm and regulate the disorders there going on; it is then rather as conservators than as radical innovators that we act.

But, you may ask, what are the rules of this "intervention"? On what manifestations do you depend when you decide on the advisability of more active therapeutic endeavors? These three points should guide you, Gentlemen: the intensity of the fever, the general state of the patient, the complications which arise; and, to set forth with more method these three points, we will in imagination take a case of typhoid fever, and follow it through the various phases of its evolution.

Your first care will be, as soon as you suspect typhoid fever, to surround your patient with all the hygienic precautions which I have above enumerated; you take the temperature twice a day, at precisely eight o'clock in the morning and five in the afternoon. Although the rectal temperature is always preferable to that of the axilla, the latter generally suffices. You watch carefully the abdominal functions, and you regulate the bowels by giving mild laxatives, such as saline purgatives and the natural mineral waters, which are better than castor oil. It will be well to cover the abdomen of your patient with a layer of cotton batting, which is kept applied by means of a body bandage. This application immobilizes, in a certain measure, the intestinal mass, and prevents the too sudden shocks,

[1] Semmola's formula is as follows:

℞.—Glycerine, ... 30 parts (by weight).
Tartaric acid, ... 2 " "
Water, ... 500 " " —M.
To be used freely as a beverage.

which, in the present disordered state of the intestines, may do mischief. This wadding is much superior to poultices, which are inconvenient by reason of the clammy and uncomfortable moisture which attends them. Then I make my patient the subject of serious attention, being ready to act according to the rules I have just mentioned; if the temperature does not exceed 102° F.; if no complication arises, I adhere to the hygienic treatment, and those mild laxatives administered every other day, and you have many times seen in my service that these simple means are quite sufficient for benign forms of the disease.

When the temperature exceeds 102° F., I begin the practice of cold lotions (sponging), which I repeat two or three times a day, or even oftener, according to the elevation of the temperature. These means often suffice to keep the temperature in the neighborhood of 102° F. But when it exceeds 103° F., and marches towards 104° F., then is the time for my intervention with salicylic acid. I give at noon, and in the space of an hour, four capsules, each containing seven and a half grains of salicylic acid, and I take care to administer during the day a certain quantity of milk, namely, about a quart.

Under the influence of the salicylic acid there is a depression of temperature; but to render this, in a manner, permanent, I repeat my dose the next day, at the same hour; then I omit this treatment for a day or two, and note the height of the thermal curve. If it attains the previous figure, I again give the acid for two days, in the same dose; and if the temperature still tends to exceed 104° F., I double the dose, and then give sixty grains in two hours—in doses of seven and a half grains every fifteen minutes; and sometimes I go as high as seventy-five grains; but I never prolong beyond two days the action of the medicament. Such are the sole means which I employ against the pyrexia.

In order to judge of the condition of the vital forces, I am guided by the assemblage of symptoms and the state of the pulse. As long as the pulse remains between 80 and 90 a minute, I let the patient alone; when it rises above 90, I give alcohol, either in the form of Todd's mixture, milk punch containing brandy, or Spanish or Sicilian wines.

In the immense majority of cases, when the fever takes on a certain acuteness, there supervenes a nocturnal delirium of mild type; when this delirium becomes more active and boisterous, I resort to chloral, which I much prefer in these cases to opium and its derivations, which, in fact, have for their physiological effect to congest the brain; and you well understand that in ileo-typhus, in which this congestion is the rule, opiates may do harm. I administer, then, hydrate of chloral, in the dose of fifteen to forty-five grains, in a mixture of egg and milk sweetened; and I frequently associate bromide with the chloral.

A boisterous delirium often accompanies ataxic phenomena, constituting thus what was formerly described under the name of ataxo-adynamic fever. When this state is not too intense, and the fever is attended with dryness of the skin, I place my patient in a warm bath, which I repeat every day or two. If the ataxo-adynamic condition becomes more intense, I have recourse to envelopment in the wet sheet, which envelopment I repeat two or three times a day, according to the necessity. I add often in these cases to the chloral or the bromide, preparations of musk, of which Trousseau made great account, and I give from seven and a half to fifteen grains of musk, in pills rather than in potion, the latter being very disagreeable to the taste. Such are the therapeutic means which I employ in the adynamic and ataxic forms of typhoid fever, and I come now to other morbid determinations of the disease.

The pulmonary complications are the most frequent. They include bronchitis, pneumonia, broncho-pneumonia, and sometimes, though very rarely, pleurisy. In the treatment of these pulmonary complications, you should avoid the application of blisters; the patient, in fact, being in a state of constant agitation in his bed, and the functions of the skin being altered, these fly-blisters are attended with ulceration, or even gangrene, and may thus become a serious evil. You should use, instead, dry cups, which render us great service in typhoid fever with pulmonary congestion, and with these cups you may cover the whole chest of your patient. You may also give internally a little tincture of aconite, which diminishes, though feebly, this congestive tendency. It will be well also to have your patients well propped up in their beds, so as to prevent those hypostatic congestions which too horizontal a position determines.

I have but little to say about the cardiac complications, at least from the point of view of treatment. Here we have, unhappily, one of the causes of sudden death in typhoid fever, not easily explicable always, whether we suppose, as Dieulafoy does, a simple reflex action, whether we attribute the fatality, as does Hayem, to symptomatic myositis, or whether we make it depend, according to Laveran and Bussard, on cerebral anæmia, or whether it results from these last two causes combined, as Huchard maintains. Our therapeutics, in fact, have very little power to prevent such a termination. I agree, at the same time, with Huchard, that tonics, general stimulants, and perhaps nitrite of amyl, may in these cases render some little service.

On the part of the digestive tube there may supervene several complications. One of these consists in the appearance of gastric troubles, and I have already spoken to you of them while on the subject of diet in this disease; the other is an accident much graver and always mortal, namely, perforation of the bowels; lastly, the third results from the occurrence of intestinal hemorrhages. I have little to say to you from a therapeutic point of view concerning intestinal perforations, yet apart from perforations as a determining cause, peritonitis has been sometimes observed in typhoid patients. In these cases there is a possibility of a recovery by a rigorous treatment, which consists in the application of ice to the abdomen, and immobilization of the intestinal mass. As for intestinal hemorrhages, we have seen that when they are of moderate intensity they are often rather beneficial than otherwise; unhappily it often occurs that they are too abundant, and we are called upon to interfere with applications of ice to the abdomen, and the internal administration of perchloride of iron or ergotine. For my part I very much prefer ergotine or ergotinine, which I give in hypodermic injections. I have thus far omitted to say anything about the diarrhœa. While recognizing the fact that a typhoid patient ought to have two or three movements a day,

there are cases when the passages are altogether too frequent, and exhaust the patient. I advise you in these cases to make use of the salicylate of bismuth, in doses of from forty to sixty grains a day.

The renal complications present a certain gravity in typhoid fever. Fothergill even thinks that it is the non-elimination of the products of combustion which is the point of departure of the typhoid state. The kidney, in fact, is congested in typhoid fever, and the urine is albuminous. Whether we are concerned with an infectious nephritis, as Bouchard thinks, or with a congestive nephritis, there none the less results a perturbation in the functions of the renal organ, and I have already spoken to you of the important part which I assign to this perturbation in explaining the toxic action of certain medicaments in typhoid patients. It is necessary, then, to favor the functions of urination, and you can accomplish this by giving abundant drinks to your patients, and one of the best is certainly milk. I share, in this regard, the view of Jaccoud, who thinks it a good thing to give to his fever patients one or two quarts of milk a day.

The skin, as you know, may become the seat of mortifications more or less deep (bed-sores); these eschars are sometimes of great gravity, extending so far as to expose the bones of the pelvis. I have even observed myelitis consecutive to the opening of the vertebral canal in typhoid patients. I have already shown you by what hygienic means you may avert these mortifications of the skin, but when despite your care they appear, you will require a special dressing for them. The best in my opinion is a solution of chloral. It was in a case of gangrenous ulceration of the hip of great extent, in a young typhoid female, that I made the first local application of chloral, and the astonishing results which I obtained from this outward medication encouraged me to study and make known the antiseptic properties of chloral, and this work of mine has served as a basis for the local therapeutic employ of chloral, to-day so much in vogue.

You make, with one per cent. solutions of chloral, frequently repeated dressings, and you have care especially to introduce into the excavation which results from the mortification of the tissues, wadding or lint soaked in this solution.

Apart from these eschars I ought to mention erysipelas of an infectious kind, and for that very reason of extraordinary gravity; phlegmons, accidents quite common in typhoid fever of a subinflammatory character, deeply hidden in the interstices of the tissues, and the possibility of which ought to make you examine, with the most scrupulous attention, the painful points of which typhoid patients sometimes complain during their convalescence. You well understand that these purulent collections should be thoroughly drained and treated by antiseptic washings and injections.

Such are, Gentlemen, the principal complications which you will have to meet; there are still others of which I shall not speak, for they are exceptional; such as gangrene of the limbs, œdema of the glottis resulting from laryngo-typhus, suppurative parotitis, but it is very rarely that you will have occasion to treat these complications.

I shall say but little of the convalescence of typhoid fever; remarking at the same time that relapses are frequent in this disease, and especially that variety of remittent or intermittent fever which accompanies convalescence from typhoid fever; a variety which David Borelli has plausibly explained by the presence of intestinal ulcerations slow to cicatrize. The entire therapeutics of convalescence is summed up in a problem of alimentation, and you should employ all your care and skill in directing aright the diet.

Such is the aggregate of therapeutic means which you ought to employ in typhoid fever; in putting them in practice you will succeed in curing the great majority of your cases, and without admitting with certain physicians that it is possible, by therapeutic means, to cause the mortality of typhoid fever to disappear, I am of the opinion that there is no disease in which the successes won by therapeutics are more numerous.

It is in following step by step the disease whose evolution he has mastered, that the physician by his earnest and thoughtful care and his attention to little points, by his energetic intervention when complications appear, may in many cases say that he has saved the life of his patient, and to express briefly my thought, I might conclude with this phrase, which, although a solecism, is the truth—"The best treatment of typhoid fever is a good physician."

ORIGINAL ARTICLES.

TWO CASES OF RUPTURE OF THE UTERUS;

AND SOME REFLECTIONS UPON THE ABUSE OF ERGOT IN OBSTETRIC PRACTICE.

BY GEORGE J. ENGELMANN, M.D.,
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RUPTURE of the uterus—one of the most fatal, but fortunately also one of the most rare, of all the dangerous accidents attending parturition—is so seldom met with that every well-observed case should be put upon record. This occurrence, fatal in almost every instance (in at least ninety-five per cent. of the cases recorded), is only too often due to a want of vigilance, to tardy interference, sometimes to ill-timed and ill-advised interference, on the part of the accoucheur. In many regions of England and the continent of Europe, where pelvic deformities abound, rupture of the uterus may result from these causes—healthy labor pains, a healthy child, and a narrow outlet; sometimes the uterine tissue is lacerated by pressure of the contracting muscle against bony projections of a diseased pelvis. In this country, however, especially in the Western States, I may almost say throughout the entire land, with the exception of those great cities which are centres of poverty and misery, as well as of wealth and luxury, a deformed pelvis is almost unknown to the obstetrician. But, unfortunately, where by a healthy development of the female frame we are freed from the main cause of this terrible dystocia, a cause sufficient for its occurrence is offered by the physician himself, and the most frequent source of uterine rupture can safely be said to lie in meddlesome midwifery of the worst kind—in the abuse of ergot.

Much is said in condemnation of meddlesome

midwifery as applied to early operative interference, to version, or to the use of the obstetric forceps; but meddlesome midwifery of a far more dangerous kind, because less evident and more common, has to a great extent escaped criticism; this is the liberal use of ergot in obstetric practice. What the forceps are to the skilled obstetrician, ergot is to the unthinking practitioner and the midwife. Aye, more, it supplies the place of every other remedy—of patience as well as the skilled hand. Ergot, I regret to say, seems to be the all-powerful and the only agent in use in the obstetric practice of but too many; and so much more injury than good is done by this drug, so potent for good or evil, that I would condemn its use in obstetric practice altogether. Parturient women would be better off if ergot was stricken from the pharmacopœia: it is never necessary, and where really needed cannot be relied upon for immediate action, so that other means must be resorted to. It does good service in its proper place, if given after the contents of the uterus have been expelled—to prevent hemorrhage, and to stimulate contraction when labor is completed, especially after the physician has left his patient. Where really needed, in cases of hemorrhage, in which the uterine fibres refuse to act, the drug cannot be relied upon; the stomach, in that enfeebled condition of the system, refuses to absorb it, and, if absorbed, its action is slow and insufficient. We must use more effective means. Hence, in extreme cases, in which uterine contractions are demanded, it is useless; and in cases in which it does answer the desired purpose, we have a choice of other means more satisfactory, and less injurious. A vast deal of injury to women in labor would be avoided—in confinement at term as well as in abortion—were this dangerous drug ostracized.

None will deny that in extreme cases—in cases of post-partum hemorrhage, for instance—more energetic means for stimulating uterine contractions are demanded; and even in milder cases we also have less harmful and more effective means. If we are doubtful of sufficient uterine contraction after the expulsion of the placenta, friction or kneading of the fundus, quinine, or injections of hot carbolized water—vaginal or uterine—will by far better answer the purpose. A vaginal injection of hot carbolized water after expulsion of the placenta is stimulating, cleansing, and advantageous in many ways. Like ergot, it hastens the contraction, and, beyond that, cleanses and lessens the danger of infection. During labor, ergot should rarely be used; for safety's sake, I should say, never. Although the injury done by the drug is not often severe—it maims oftener than it kills—it is all the worse for its frequency, and, not being so palpable, has escaped notice and condemnation to a great extent. The use of this drug during labor is a widespread evil; the authorities always call attention to ergot as a powerful oxytocic, and, though they limit its use, do not sufficiently warn us of the terrible dangers which accompany it, and the practitioner is more or less given the impression that it—ergot—is the most necessary aid to the accoucheur: this illusion must be dispelled, and I will here show how serious may be the evil consequences of giving the drug during labor.[1] The authorities claim that in by far the greater number of cases of rupture of the uterus, the cause may be sought in the use or abuse of ergot; and in order to demonstrate clearly the injurious effect of that drug, I shall relate the two that have come under my own observation.

Although each possesses features of interest in itself, I look upon these terrible cases of death of mother and child, the sudden taking away of strong, healthy women in the midst of the parturient process, as the most striking demonstration possible of the dangerous abuse of ergot.

Case I.—A healthy negro woman, some twenty-six years of age, who had borne two children at term without unusual suffering was about being confined with her third; the waters had broken and labor was progressing, but apparently not to the full satisfaction of the impatient attendant, whether physician or midwife I do not recollect, and ergot was given. The pains came more rapidly and with increasing severity; and, as the story of those present is, the patient, in the agonies of intense labor-pains, suddenly cried out, suffering from a pain more severe than any preceding; she fell back, apparently in great distress, labor-pains completely ceased, and she sank rapidly with great suffering. The attendant having left, a physician was sent for, who found the patient in a state of collapse, death soon following.

It was my good fortune, by the kind permission of the Coroner, Dr. Auler, to make the post-mortem examination. The abdomen being opened, I found the fœtus involved in large masses of clotted blood in the lower left portion of the abdominal cavity; the uterus was flabby, partially contracted, containing the somewhat adherent placenta and large clots of blood. The laceration extended from the central portion of the cervical juncture, perhaps a little to the left, through the lateral portion of the body into the upper third. The pelvis was normal, with the exception of a bony protuberance near the ischio-pubic juncture upon the brim; but whether the rupture was in any way furthered by pressure of the tense muscles against this exostosis, I am unwilling to say. The child was of moderate size, if anything, below the average; the os was partially dilated, yielding readily. To my mind, the fatal result must mainly, if not altogether, be ascribed to the hyperactivity of the muscles, over-stimulated by ergot.

Case II. was that of a lady, aged twenty-five, married four years, with a fine frame and an un-

[1] I have been of late so thoroughly impressed with the necessity of limiting the prevalent use of ergot, on account of the many resulting evils, to which my attention was first directed by these fatal cases, that I was induced to read a paper upon the use and abuse of ergot at the late meeting of the American Gynecological Society. Being in hopes that if other—more effective and harmless—means for stimulating uterine contractions were more generally introduced, ergot would be more readily given up than by merely pointing out the dangers of its use, I have supplemented this by a paper read before the St. Louis Obstetrical and Gynecological Society, on the use of external manipulation in obstetric practice; for it is mainly by the proper *management* of labor—by *patience*, by *posture* of the patient, and by *external manipulation*, that we can safely accomplish what ergot was *supposed* to accomplish in labor.

usually healthy, vigorous constitution. She was delivered three years ago of her first child in a normal labor with good getting up, and passed through her pregnancy without unusual symptoms, being in the best of health. Uterine pain began during the day; at 10 P.M. the midwife arrived, the pains continuing with moderate regularity. She remained during the night, but left on the following morning, returning toward evening. The pains continued with increasing severity, the midwife remaining throughout the night and also upon the following day, the third; as the labor seemed to be unnecessarily delayed, under favorable circumstances, with the patient in excellent condition, a physician was sent for, who arrived at 6 P.M. He pronounced her condition good, and at once ordered ergot. He informs me that he found the os dilated, but the parts rigid and dry, and that the arm came down at half-past nine. The ergot arrived at 7 P.M. One drachm was given, and in thirty minutes a second; a few minutes later a third (soon after giving this third dose the attending physician upon examination informed the friends that the child was not in the right position, that an arm was presenting). Having placed the patient under chloroform at 10 P.M., he attempted an interference, but failing, sent for a consultant, who was unable to accomplish more, though desisting only after persistent efforts continued during the space of an hour. A second consultant was then sent for, as the case appeared a desperate one. Arriving at 2 A.M. on the morning of the fourth day, he, too, attempted to turn the unusually large child in the now firmly contracted uterus, but with no more success than his predecessors. After the previous attendants had again attempted to interfere, but with no better success, the patient was left at three o'clock in the morning, with instructions to refill the bottle of ergot and continue its use, as the labor-pains seemed to have ceased. Between two and three o'clock she suddenly felt a sharp pain, and cried out with suffering, complaining at the same time of the excessive motion of the child; after this, however, all was quiet; the physicians had left with instructions to continue the medicine, and neither labor-pains nor motion of the child was again felt, the patient remaining very quiet for the balance of the night.

I was summoned on the morning of the fourth day, in great haste, with a request to "bring my instruments to cut up a child as it couldn't be delivered," and reached the patient at 10 A.M. I found her a healthy, strong, young woman, partially sitting up in bed, semirecumbent, supported by both arms, apparently none the worse for all she had undergone during the three days of this protracted labor. The peculiar position, and the anxious care with which she seemed to preserve it, guarding herself against even the slightest change, struck me at once. Equally remarkable was the shape of the abdomen, which was peculiar, presenting a well-defined prominence, bulging out directly beneath the rib under the region of the heart in the left side. Her pulse was excellent, quite strong, and regular. The lucid statement of the attending physician, who had arrived at the same time, the history briefly gathered, her excellent condition, the immense discolored arm which hung limp in the vagina—all led me to infer that it was merely a question of turning an unusually large child, and I expected nothing worse. Heeding but little the peculiar prominent mass in the epigastrium, I was simply puzzled by the distinctness with which she made the statement that early in the morning, at 2.30 A.M., the child gave a sudden jump, which made her cry out with pain and say that she wished that it would not move so violently, whilst the discolored arm seemed to point to the death of the fœtus at a much earlier period.

Although every movement caused her great pain and could be accomplished but slowly, I at once placed the patient in the proper position, in the dorsal decubitus, upon the edge of the bed. Her pulse, which had become somewhat rapid under the excitement, soon recovered, when the chloroform had taken effect. I found a third shoulder presentation; the right arm in the vagina, the parts excessively dry and tense, the uterus spasmodically contracted and not in the least relaxed by the chloroform, so that it was with difficulty that I could move my hand in the cavity. The child was of enormous size, my hand would not pass beyond the abdomen, nor was I enabled to move any of the parts in the least. The conditions did not seem improved after disarticulation of the presenting arm. The attending physician introduced his hand, after mine became completely tired out, with no better result; after another effort I was enabled to bring down what I supposed by its size to be a leg, but found it to be the left arm, which I also disarticulated. Still unable to accomplish more, I attempted eventration, gaining but little on account of the tetanic contraction of the parts. I was greatly puzzled at not being able to find any portion of the lower extremities, which in this position should have been in front quite near the os; as far as I was able to move my hand within the rigidly contracted uterus I could find nothing but the monstrous body of the child, and began to suppose some deformity of the fœtus, until I was enabled to reach the hips, but these were closely constricted by a ring of uterine tissue. I now suspected the true condition of affairs—a rupture of the uterus, the hips within the opening, the breach forming the bulging prominence within the abdominal cavity directly beneath the ribs.

Seeing no relaxation of the tissue, I informed the relatives of the condition of affairs and the urgency of decisive interference. Consent was at once given to any measures that might appear necessary, and although having only my pocket-case at hand, I made the necessary preparations to open the abdominal cavity and extract the child. Before, however, taking this step, which seemed a hazardous one with this slender apparatus, especially without properly prepared sponges, I determined to make one more effort at version, and succeeded in passing my hand along the hips of the child, through the constricting ring into the abdominal cavity, and was enabled to seize one foot, which I found directly beneath the diaphragm. Version and extraction

were rapidly accomplished, the attending physician greatly aiding by grasping and following down the uterine fundus; with the assistance of friction and cold water the womb fairly contracted, and I at once delivered the placenta, and then mopped the uterine cavity, first with hot water, and then with perchloride of iron. There was no loss of blood, and the uterus contracted into a firm and hard, although very large, globe. Child and placenta were both of enormous size, and in beginning decomposition. The patient was brought to bed; brandy was given by subcutaneous injection; the pulse, which had become very rapid and feeble toward the last, seemed to revive a little, and she recovered consciousness. Not a drop of blood was lost; the uterus remained contracted in a firm, hard, and enormously large globe. But notwithstanding the apparently favorable conditions, the pulse became very rapid and feeble, the patient sank, and died quietly within two hours after delivery.

In considering these cases, it will be seen that the first is a typical example of rupture of the uterus; the patient being seized suddenly with an intense pain, the symptoms of internal hemorrhage, shock, and collapse following; the child expelled into the uterine cavity involved in the clots consequent upon internal hemorrhage.

The second, however, is remarkable in so far that the rupture, which was well characterized, did not result in any such consequences for the time being. The patient lived ten hours after the occurrence of the rupture, and the fœtus, at least so far as the presenting parts were concerned, did not change position. The pulse gave no indication of shock or hemorrhage, nor was any hemorrhage visible. This peculiar condition is readily explained by the unusual size of the child: the huge trunk remained within the uterus, the head upon the right ilium, the breach beneath the diaphragm and abdominal wall in the abdominal cavity, so that this immense mass was firmly wedged in and tightly held within the firm contractions of an unusually powerful uterine muscle, which, in the lacerated portion, seemed to encircle the breech of the child as with a band of steel. The laceration was in the upper third of the left side toward the fundus. Another striking feature, to me at least, was the firm and permanent contraction, both before and after expulsion; the free use of ergot might have produced the former, hot water and perchloride of iron the latter.

Whatever of interest these two cases may have as cases of rupture of the uterus, both seem to me a terrible warning of the dangers of ergot in obstetric practice. In the first case nature, and if not nature, certainly the obstetric forceps, would readily have completed delivery without the slightest difficulty, had the uterus not been over-stimulated by the dangerous drug. In the second, delivery was impossible by the forces of nature, and the powerful muscle of an unusually strong body was driven to enormous exertions, until it grasped in tetanic contraction the immense mass of the unusually large ovum, preventing any rectification of position, and, unable to expel the mass by its proper outlet, it gave way in the effort.

One word with regard to the final management of these cases. Notwithstanding the absence of all symptoms of hemorrhage, and the apparently perfect contraction of the uterus, a certain amount of blood and amniotic fluid must have escaped into the abdominal cavity, and, as a rule, a large quantity accumulates there, hence it is best to remove this; whether the child be delivered per vaginam or by abdominal section, the opening of the abdomen affords the patient a better chance of recovery, as hemorrhage can then be stopped, the lacerated surfaces of the uterine muscle properly united, and, above all, the abdominal cavity cleansed. This treatment was not here resorted to because the necessary apparatus was not at hand, not even within reach, and the patient was rapidly sinking from the shock received.

Of the lesser and more frequent evils which result from the use of ergot we hear but little, yet they are many; extreme cases, fortunately, are rare, but, not being reported, possibly are more frequent than is generally supposed.

Of all the milder, more harmless, and yet effective stimulants to uterine contraction, I would, if a medicine is to be given, mainly urge quinine, which is always a valuable aid to the parturient process in this climate; for the purpose of altering painful and ineffective labor-pains we have in opium and ipecac, especially in Dover's powders, a by far better and more natural means than in ergot; and for the purpose of furthering post-partum contractions, the one legitimate use of ergot to which I would see it limited, massage of the uterus and hot-water vaginal injections are equally effective, more rapid, and preferable; the douche, when combined with carbolic acid, permanganate of potash, or other disinfectants, guards us at the same time from an even far greater danger. These means are always on hand, and why should we not resort to them in ordinary cases?

When necessity urges, as in case of post-partum hemorrhage, ergot certainly is useless, even dangerous, and cannot be relied upon: the stomach may not assimilate it, and, even should it do so, the action is slow, and only subcutaneous injections may be of use, whilst intrauterine injections of hot carbolized water, external manipulation, massage, or astringents—vinegar, alum, and above all perchloride of iron—within the uterine cavity, act immediately and effectively; friction of the surface, massage, and the hot vaginal douche will serve well before delivery is completed. Later, after expulsion of the ovum, and if more vigorous measures are necessary, we can rely upon intrauterine injections and the use of astringents within the cavity.

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THE TREATMENT OF TYPHOID FEVER.

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(Concluded from page 360.)

The introduction of the antipyretic use of cold water has been traced by Lauder Brunton to the time of Augustus, whose life Musa saved by its

means. The systematic application of cold affusions to the body to reduce the temperature of fever patients, together with accurate thermometric investigations, seems to have been first practised by John Currie in 1797. This method seems to have been much resorted to in the first half of the present century in England, Egypt, Russia, and Germany, but it seems to have subsequently disappeared from therapeutic procedures, and to have been again revived by Dr. Brand,[1] of Stettin. He has applied this treatment to a large number of cases, and has collected statistics of eight thousand cases thus treated; and he counts among his followers Liebermeister, Bartels, Immermann, Niemeyer, Ziemssen, Jurgensen, and many others.

During the twenty years 1848–67, 2228 cases of typhoid fever were admitted into the Charité in Berlin; of these 405 died, which was a rate of mortality of 18 per cent. The antipyretic treatment was then introduced, and during the nine years 1868–76, 2086 cases were admitted, and 267 died, giving a mortality rate of 13 per cent. We are told that of these cases 64 were admitted in a condition not admitting of the treatment, and that if they be deducted from the list, the mortality would be only 10.5 per cent. In the Prussian army, during the seven years from 1868–74, the rate of mortality from typhoid fever was 15 per cent. The antipyretic treatment, chiefly in the form of cold bathing, was then introduced, and during the next seven years the mortality rate fell to 9.7 per cent.

At the meeting of the Academy of the Sciences in Paris on February 26, 1883, Dumontpallier finished a contribution to the study of the subject of refrigeration of the human body in fevers, especially in typhoid fever, with these among his conclusions: "That the treatment by refrigeration in typhoid fever judiciously conducted affords great advantages in the therapeutics of that disease. One cannot pretend to cure all patients, but I have the firm conviction that in thus modifying the high temperature this method can lessen the mortality to a very considerable extent."

During the year 1883 this subject was very frequently under discussion in the Academy of Medicine in Paris. Much of the discussion has been interesting and instructive, and much discursive and personal; and it may be supposed that the method by cold baths, being a German method, has not been adopted with alacrity by the French. On the 15th of March, 1883, Ricklin gave statistics of results in German hospitals by this method, which serve to justify our faith in it, when we consider that they have been subjected to a rigid scrutiny by "the hereditary enemy." According to this writer, in the Bethanie Hospital, in Berlin, during the fourteen years from 1868 to 1881, 3140 cases were treated, with a mortality between 13 and 14 per cent. In the hospital in Munich, from 1868 to 1875, Ziemssen treated 2223 cases, with a mortality of 205, or 9.2 per cent.; and Zaubzer, with 206 cases, lost only 8.8 per cent. These two observers treated their patients systematically with cold baths.

Jaccoud, at a session of the Academy on February 6, 1883, recounted his method of treating this disease, which consists in the administration of from 30 to 80 grammes of alcohol a day in teaspoonful doses, with 3 or 4 grammes of extract of cinchona, and, in addition to this, sponge baths of vinegar or aromatic vinegar and water four, six, eight, or ten times a day, in accordance with the temperature. In certain cases in which this treatment fails to reduce the temperature, he gives from 1.5 to 2 grammes of bromohydrate of quinine or salicylic acid every other day. He thinks he has thus produced an amelioration of nearly all the graver symptoms of the disease. During the past sixteen years he has treated 655 patients after this manner, with a mortality of 10.83 per cent. He has collected 80,140 cases, treated on the expectant plan, with a mortality of 19.23 per cent.

Dr. Frantz Glénard, writing last year in the *Gaz. hebd. de Méd. et de Chir.*, and also in the *Lyon Méd.*, gives briefly the results obtained in Germany and in Lyons by the method of Brand. His conclusions were adopted almost unanimously by the hospital physicians of Lyons—twenty-two out of twenty-four being in their favor.

They are briefly recapitulated thus:

The method of treatment which exercises the most favorable influence over the progress and termination of typhoid fever is that which has for its foundation refrigeration by cold water and continual feeding of the patient from the beginning to the end of the disease. The therapeutic procedure which responds best to the former of these indications is the use of repeated cold full baths, with cold compresses in the intervals between the baths.

Typhoid fever treated methodically, and from a period soon after its commencement, assumes an encouraging character during its entire course, and the duration of convalescence is considerably shortened. Complications are rare under these conditions, and there are no grave consequences, either immediate or remote, which can be directly imputed to this method. If one begins this treatment after the disease is under full headway, instead of at its commencement, so that the endeavor is made rather to combat complications than to prevent them, the results, though not so marked as if the method were early adopted, are still better than those given by any other mode of therapeutics.

Consequently, the physicians of the hospitals of Lyons declare themselves partisans of Brand's method of the treatment of typhoid fever, with the conviction that this method regularly applied, especially from the beginning of the disease, has considerably lessened the percentage of mortality.

Glénard then goes on to quote statistics from the German army with which we are already familiar, and to place side by side the statistics of results obtained in the German army, on the one hand, and in the French army on the other, and to draw from this comparison a new argument in favor of cold baths. "We have," he writes, "as a means of drawing conclusions in regard to this method, the

[1] Not having had access to Brand's book, I have been obliged to accept statistics and other matters derived originally from him, as they appear in Cayley's lectures and in the writings of others.

results of twenty years in Germany, and of ten years in the hospitals of Lyons. Since its adoption the mortality in both has fallen from 26 per cent. to 9 per cent.; and in some of the German hospitals, and in private practice in Stettin and Lyons, it has fallen to 1 or 2 per cent.

"One is justified in saying," he continues, "that the rate of mortality in typhoid fever treated by cold baths depends upon the strictness with which the method is applied, and that it can consequently be indefinitely reduced.

"Under the expectant method the mortality depends solely upon the severity of the epidemic; it depends upon the disease, and not upon the doctor."

This sanction of the German method, almost unanimously adopted by hospital physicians of so large, and wealthy, and intelligent a city as Lyons, and that, too, under the well-recognized circumstances of existing antipathy to things German on the part of the French, is certainly sincere, and should command our earnest attention.

I do not wish to be understood to imply that all the writers in current medical literature are in favor of Brand's method; but I do believe that a careful comparison of them all will lead an unbiased reader to believe that the most exact and careful observers are, as a rule, strongly in its favor.

In the hospital at Basle, where a mortality of 27.3 per cent. occurred in 1718 cases treated on the expectant plan, in 1483 cases treated on the antipyretic system they had a mortality of 8.8 per cent.

In the hospital at Kiel, 330 patients treated on the expectant plan gave a mortality of 15.4 per cent.; 160 cases treated by Jurgensen on the antipyretic plan gave a mortality of 5.1 per cent.

In the Military Hospital of Stettin, 1591 cases treated on the expectant plan gave a mortality of 25.6 per cent; of 121 cases treated in the same hospital antipyretically, all recovered except 5, giving thus a mortality of about 4 per cent.

The general results, as given by Dr. Brand, show that of 8141 cases treated antipyretically, 600 have died, giving thus a mortality of 7.4 per cent. To crown all, Dr. Brand has treated 211 successive cases in private practice without a single death and without the occurrence of peritonitis or perforation. Let us remember that these were not selected cases, but that they occurred consecutively in the practice of a single individual.

After comparing these results with those that I have already given, can anyone doubt the efficacy of cold water in the treatment of this disease? In time of peace, during the year following the civil war in this country, 1285 cases of typhoid fever occurred in our army, with 635 deaths, showing a mortality of something over 49 per cent. It seems to me that we should no longer hesitate to adopt this treatment as a routine method of combating the most dangerous symptom of this grave disease.

It is not generally adopted in this country, or even in this city, and I fear its general use will be long postponed, notwithstanding all these facts. The community is prejudiced against it, and we doctors have first to undertake the task of educating the community to its use. How often have I heard doctors condemn it as an unsafe and violent procedure, who had never once seen it systematically tried. Like tracheotomy, it is mildly suggested by a timid doctor, as a possibility of saving a moribund patient, and, like tracheotomy, failing to restore life to a dead man, it has fallen into disrepute. How many hospitals in this city are properly equipped with portable bath-tubs that can be of service for this purpose, and how many hospital physicians among us have seen systematically made use of them?

Cold water is variously applied: in the cold bath, cold affusion, cold pack, cold compresses, and the graduated bath, which consists of a warm bath gradually cooled down after the patient has been placed in it. Each of these methods is adapted to some cases, and each of them has its special advocates, but there is little doubt that, for general use, the cold bath is by far the best.

According to Brand, whenever the patient's temperature exceeds 102.2°, he should be put into the bath, the temperature being taken in the rectum. The temperature of the water is between 65° and 70°. Usually this will be well borne for ten or fifteen minutes, and it should ordinarily not be discontinued until a distinct shivering has begun, its effect on the pulse, meanwhile, being carefully watched. The temperature continues usually to fall for some time after the patient has been removed from the bath. The frequency with which the bath must be repeated will vary with individuals, but it should always be resorted to when the temperature reaches 102.2°.

My own experience with this method is so insignificant, as compared with the statistics collected by Brand, that it seems hardly worth while to do more than allude to it. About three years ago the New York Hospital had a bath-tub constructed for me, on wheels with rubber tires, so that it could be brought noiselessly to the bedside for use when required. It requires the services of two able-bodied attendants properly to administer a bath. The water need not, of course, be changed for every bath. I can only say that I have employed the method in a small number of cases, and am quite satisfied with the results obtained in this way. Not only is the fever thus reduced, but many of the graver symptoms are ameliorated, such as stupor, insomnia, delirium, feebleness of the heart's action with its pulmonary sequences, bedsores, and meteorism; and the mortality is unquestionably reduced, as the statistics which I have quoted show.

I have seen a general pulmonary œdema disappear almost as if by magic, under persistent application of cold water. It seems to have no influence, either for good or evil, over the occurrence of intestinal hemorrhage and perforation, and though we are forced to admit that its use is followed by a greater tendency to relapse, still relapses, as a rule, are of small consequence as compared with the many advantages of the method.

The temperature of the body is then markedly reduced; more in light cases than in severe ones; rather more markedly late in the disease than early. The fall in temperature begins when the patient is

removed from the bath, and continues more and more marked for an hour or two, when it again begins to rise, and may reach a height, in the earlier period of the disease, somewhat above that at which it was before the bath. In the later stages this is unusual. The frequency of the pulse is often diminished as much as twenty beats in the minute.

Under this treatment, the acidity of the urine is diminished, this sometimes even becoming alkaline, and often the solid ingredients of the urine are diminished, this indicating a diminished destruction of the albuminous tissues. Albuminuria becomes less frequent. From theoretical reasoning, it would seem unquestionable that such changes must have a good influence on the course of the disease. The excitement of the nervous centres being thus temporarily calmed, they are thus susceptible of a normal or nearly normal nutrition, the danger of collapse being thus materially lessened.

The practical proof which is given by the statistics of results under different methods of treatment seems quite in accord with these theoretical deductions.

The effect of high temperature is very deleterious upon normal tissues, and its influence is distinctly evil in reference to the possible healing of intestinal ulcers. Every surgeon knows that wounds are apt to act badly under the influence of fever, and it would seem to need no further argument than this to induce us to produce these artificial remissions of fever.

Whether to use the cold bath for a few minutes, the tepid bath or the graduated bath for a longer time, or the wet pack or cold sponging, or Leiter's tubes, which form the latest modification of the antipyretic method, are questions which the circumstances surrounding each case must enable us to decide. Enough has been said and written of late years about the technique of cold bathing. This must be made to vary with different cases; but one thing seems certain with regard to that modification of the plan which is most common here, namely, that cold sponging is in many cases wholly inefficient in the reduction of temperature.

Many lives have been lost by a timid temporizing with this modification, the physician lulling his conscience to sleep with the thought that he is resorting to a useful procedure, and the friends of the patient being content that much is being done to save him, his temperature meanwhile not falling appreciably under its use. My experience with Leiter's tube or coil is more unsatisfactory in this disease than with cold sponging.

It is not claimed that all cases can be safely or properly subjected to prolonged cold bathing. As contra-indications, may be mentioned intestinal hemorrhage, or perforation, or peritonitis; aphonia from ulceration of the larynx, which may threaten œdema of the glottis; marked degrees of heart weakness, in which the internal temperature is high, with cool extremities, pulse and heart impulse being very weak; also, venous congestion from chronic bronchitis, emphysema, and heart disease.

Menstruation and pregnancy are not contra-indications.

Besides these classes of cases, experience shows that certain patients, chiefly women, do not stand cold applications well, and in such cases the treatment after trial is not to be persisted in; but it is my belief that these cases are not common.

Of the use of antipyretic drugs in doses sufficient to reduce the temperature I am not an advocate, and I fail to interpret correctly the therapeutic indications of the times if they are not being less and less frequently resorted to. One cannot give large and frequently repeated doses of quinine, salicylic acid, or kairin without incurring the risk of seriously disturbing important functions. The use of carbolic acid in this disease is occasionally attended by very unpleasant consequences, and the results obtained by it do not seem to warrant us in continuing its administration either hypodermically or otherwise.

And now, Mr. President, having trespassed so long upon the time of the Society, I will not venture further to detain you by dwelling upon the various complications that may require treatment. I feel sure that you are waiting impatiently for those who are to follow me, and I will, therefore, content myself with merely calling attention to some of the important symptoms that require attention. These are nervous irritability, insomnia, headache, retention of urine, diarrhœa, perforation, peritonitis, tympanites, constipation, bronchitis; and I will close with the remark that those of us who habitually resort to the antipyretic method are rarely called upon to treat most of these complications, for it is well recognized that in patients thus treated but few of these symptoms habitually occur.

PROLAPSUS OF THE URETHRA.

BY R. H. DAY, M.D.,
OF BATON ROUGE, LA.

IN the report of my case of prolapsus of the urethra, published in THE MEDICAL NEWS of December 1, 1883, I stated that I had a second case under treatment, which I would keep under observation, and report the result.

This second case was brought to me about two weeks subsequently to the first. The patient, also a colored child, only fifteen months old, otherwise healthy, had a small prolapsus of the urethra, about the diameter of a nickel, slightly compressed laterally by the labia, making it somewhat elongated from above downward.

The mother stated that she had observed this protrusion for the past three or four months, and that it was slowly increasing in size. It presented all the physical appearances of the first case, except that it was much smaller.

The patient being quite young and in good health, and the prolapsus not causing much inconvenience, I determined to try to effect a cure without resorting to an operation. I accordingly commenced with acetate of lead, sulphate of zinc, and tincture of opium in aqueous solution, with which the tumor was directed to be sponged several times a day, and a pledget of cotton-lint wet with it applied in the interim. This was kept up for a week, and finding

but slight, if any, diminution in the size of the tumor, I changed my prescription to tannic acid dissolved in glycerine, to be kept applied on cotton-lint to the part. This acted favorably; the vascularity of the prolapsed membrane became less, by contraction of the capillaries and surrounding tissues, and in ten or twelve days was entirely retracted within the external opening of the canal, and the urethra presented a normal appearance.

Since my first case was published, I have been informed by Dr. M. D. Mann, of Buffalo, N. Y., that quite an able and exhaustive paper, covering this entire subject, had been written by Dr. T. A. Emmett, and was published in the *Transactions of the American Gynecological Society*. I regret very much that I did not know of, and had not seen, Dr. Emmett's paper when I reported my case, as it would have given me great pleasure to speak of his observations and skill in treating this rare disease, and of acknowledging the information and benefit I must have derived from an acquaintance with his views and experience.

In reviewing the history and particular features of the two cases, which I have seen, I am convinced in my own mind that the right line of treatment in each case, though entirely different, was based upon correct theoretical principles, and in each was promptly successful.

It may be thought by some, that inasmuch as the local application of tannic acid and glycerine was so successful in the last case, it might have been so in the first, and, if so, have saved the patient the risks of chloroform, and the possible accidents of even a simple operation. I would answer, that the size of the tumor in the first case, its extreme irritability, and the great pain and frequent efforts of micturition, made it necessary to adopt immediate operative measures for her relief, and hence justified any risks that were necessary in the procedure; still, in any subsequent case of this disease falling under my care, in which I can believe it is safe for the patient to delay, I shall certainly give the tannic acid and glycerine another trial, in view of their favorable action in the last case.

MEDICAL PROGRESS.

Septic Pneumonia of Young Children.—At the close of an article on this subject Silbermann draws the following conclusions.

1. The septic pneumonia of infants and nursing children, and which begins as a tracheo-bronchitis, is a catarrhal, and very often a foreign-body pneumonia.

2. It begins by the aspiration of decomposing amniotic fluid and genital secretions, or by the inspiration of strongly infected air from some septic disease of the mother.

3. Septic pneumonia of infants frequently accompanies diseases of the pleura, but seldom of other organs.

4. The alveoli and bronchi of the lungs of children dead of septic pneumonia are filled with bacteria.

5. The blood shows an increased amount of white globules, and a broken-down condition of the red.

6. Icterus is not a constant accompaniment of the disease.

7. The time at which the disease occurs is from one to two days after birth, and death usually takes place in about two days.—*Deutsch. Archiv f. klin. Med.*, December, 1883.

Sulphate of Copper in Obstetrics.—At the meeting of the Académie de Médecine, on March 4, 1884, M. Charpentier stated that he had employed sulphate of copper in obstetrics for some time, and from the experiments made in September and October, 1883, he draws the following conclusions:

1. Sulphate of copper, in solution of 1 to 100, is a good antiseptic, and may be of great service in obstetrics.

2. It is inoffensive to the patient, very cheap, and easily handled; it may be used for intravaginal or intra-uterine injections.

3. Sulphate of copper is both astringent and styptic, and may be used as a hæmostatic in place of Monsel's solution.

4. The solution used should be 1 to 100, and heated to about 96° F. It may be used for eight or ten days after parturition, repeated several times during the first twenty-four hours, if necessary. It lowers the temperature, and diminishes the frequency of the pulse.—*Journ. de Méd. de Paris*, March 8, 1884.

The Anatomy of the Hymen.—Dr. S. Pozzi has recently made a double series of anatomical investigations on this subject. First, on the embryo, in order to determine by sections the independence of the formation of the hymen, and the terminal parts of the ducts of Müller; and, second, on infants and adults, in order to dissect the masculine band (*bride masculine*) of the vestibule, and show its relations to the hymen. The conclusions which he draws from these investigations are as follows:

1. The hymen is an appendage of the vulva and not of the vagina; it is formed at the expense of the urogenital sinus, which also forms a short vestibular canal, this last being the entrance to the vaginal canal.

2. The name *bulb of the vagina* has been unwisely given to the lower part of the vascular plexus, which occupies a prominent position in that canal. There is no ground for distinguishing a distinct organ here, and it should not be compared to the bulb of the urethra in man. It may as well be said that the corpora spongiosa are the analogues of the labia minora.

3. An attentive examination of the vestibular region in woman will show a small band or frænum (*bride*) between the clitoris and the meatus, about two-tenths of an inch long in the adult, easily recognized by the rectilinear outline of its borders, marked by a median furrow, and divided inferiorly so as to encircle the meatus. When the hymen exists, it appears to be continuous with this frænum. Pozzi proposes to call this small band, now described for the first time, the male frænum of the vestibule (*bride masculine du vestibule*).

4. The study of the balano-urethral frænum—so noticeable in cases of hypospadias—shows the identical connections between that large band and the atrophied frænum (*bride*) of the female vestibule.

The bifid condition at the meatus and its continuity with the hymen are easily shown. But in hypospadias it

is clear that the frænum is a vestige of the corpus spongiosum arrested in the embryonic stage. The hymen of the hypospadias then, proceeding from the frænum, s an appendage of the corpus spongiosum, and is the terminal part or bulb. This conclusion may be applied to the female organ, and it may be said that *the hymen in the female is the analogue of the bulb of the urethra in man; it is the bulb arrested in the fœtal state, non-erectile, and membraniform.* [Henle has noted the frequent presence of cavernous or erectile tissue in the hymen.]

5. The connections of the gland of Bartholin to those of Cowper may be also easily made out. The considerable length of the excretory canal for the male glands, compared with their shortness in the female, should be especially considered. This admits of the opening of the canal considerably in front of the membranous region, at a certain distance in front of the posterior part of the bulb; that is to say, at a point exactly corresponding to the opening of the duct of Bartholin, in front of the hymen, at a certain distance from the fourchette. The opening of Bartholin's gland in the prehymeneal portion of the vulva is the origin of that singular lengthening of Cowper's duct.

6. The male frænum of the vestibule in woman is the vestige of the anterior or cylindroid portion of the corpora spongiosa, just as the hymen is the vestige of their posterior or ovoid portion.—*Gazette Méd. de Paris*, February 23, 1884.

PORRO OPERATION ON ACCOUNT OF TUMOR OF THE CERVIX.—DR. DENARÉ reports (*Lyon Méd.*, 1883, No. 20) the case of a woman, æt. forty-two years, who had had thirteen children and two miscarriages. She was now in labor for the sixteenth time. On examination a hard tumor was found in left iliac fossa; it was large, sprang from the posterior lip of the cervix, and between it and the anterior pelvic wall there was scarcely room to admit a finger. On November 23, 1882, three days after the first pains, the Porro operation was performed. The fœtus was found to be macerated. The woman recovered.—*Centralb. f. Gynäk.*, February 23, 1884.

THE RADICAL CURE OF INGUINAL HERNIA.—MR. J. K. BARTON, in a paper on this subject, refers to the *direct method* as described by Prof. S. D. Gross, and reports three cases. The first was that of a boy, about three years old, who had an enormous inguinal hernia, which could not be kept in place.

An incision, two inches in length, was made obliquely from above downwards and inwards, its upper extremity corresponding to the internal ring; the fascia was carefully divided upon a director, and when the internal ring was reached the index finger of the left hand was introduced into it, so as completely to prevent the descent of the hernia, and, at the same time, to regulate the next step, which was the introduction of the wire suture; and for the remainder of the operation the finger maintained this position. A curved needle, with the eye close to the point, was then passed through the inner pillar of the ring (care being taken not to introduce it too near its free edge), and, guided by the left forefinger, was safely carried across the ring and through the outer pillar from behind forwards; a strong silver wire was then passed through the eye, and the needle was withdrawn; thus the first wire stitch was introduced and similarly a second—only two were placed in this case—the finger was then withdrawn, and the wire was tightened, drawing the sides of the ring into close contact. When firmly secured by twisting, the cut ends were carefully bent down so as to lie in the axis of the wound, and not project either forwards or backwards. Drainage was provided for by a few catgut threads, the wound was then closed, and dressed with protective and gauze. This case subsequently ruptured again, but the other two, upon which the same operation was performed, were complete successes.—*Dublin Journ. of Med. Sci.*, February, 1884.

THE CAUSE OF ABORTION OR PREMATURE LABOR.—In an interesting discussion on the reciprocal influence of traumatism and pregnancy, before the Société de Chirurgie, in 1876, it was conceded that: 1. The true predisposing cause of abortion is irritability of the uterus, that is to say, the property possessed by the tissue of that organ of responding, by virtue of contractility, to external or internal stimuli, whether direct or indirect. 2. When the woman, the uterus, and the ovum are sound, this property is but slightly developed, and traumatism has but little influence in causing abortion or premature labor. In these favorable conditions, experience has shown that injuries, falls, blows, and severe surgical operations are not likely to cause these accidents, unless the genital apparatus itself is involved. 3. The causes producing inability of the uterus, and, consequently, which cause that organ to contract and expel its contents, are: *a*, Diseases or lesions of every nature which affect the uterus; *b*, diseases of the ovum, affecting the placenta, the cord, or the fœtus, death of the fœtus, and hydrops amnii; *c*, certain general morbid states affecting the mother, comprising acute diseases, as typhoid fever, the eruptive fevers, cholera, and various epidemic influences; and chronic diseases, of which the principal are albuminuria, constitutional syphilis, the various cachexiæ, constitutional or acquired feebleness, saturnine or paludal poisoning, chloro-anæmia, etc. According to Guéniot, these general causes may act in two ways—either directly, by causing uterine irritation, on account of the local state of the organs, or, indirectly, by altering the ovum.

Among the chronic diseases causing abortion, says DR. F. VINCENT, chloro-anæmia merits special attention, as it exerts a marked influence on the whole system. Of the functional troubles, those of the nervous system play the most important part. In certain cases the nervous symptoms assume a very grave character, and the malady is complicated by spasms, such as chorea, epilepsy, paralysis agitans, and even by mental alienation. Furthermore, chloro-anæmia is remarkable in that it complicates most of the chronic diseases mentioned above, notably those affecting the nervous system, as: 1. Albuminuria (so frequently a cause of eclampsia during pregnancy or labor). 2. Saturnine intoxication. 3. Mercurial cachexia. 4. Constitutional syphilis. 5. Paludal intoxication. 6. Hysteria in all its forms. It may be considered as an established fact that chloro-anæmia renders the nervous system very impressionable to outside influences, and it would seem that an essential neurosis may exert the same effect in causing abortion as an acquired neurosis.—*Journal de Méd. de Paris*, February 16, 1884.

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

COMMUNICATIONS are invited from all parts of the world. Original articles contributed exclusively to THE MEDICAL NEWS will be liberally paid for upon publication. When necessary to elucidate the text, illustrations will be furnished without cost to the author. Editor's Address, No. 1004 Walnut St., Philadelphia.

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SATURDAY, APRIL 5, 1884.

EMMET'S OPERATION FOR LACERATION OF THE CERVIX.

IT has been said that a new operation usually passes through three periods in regard to professional favor. In the first it is decried; in the second it is unduly commended; while in the third it is given its just appreciation. Dr. Emmet's operation for laceration of the cervix—an operation now hardly fifteen years old, has probably not completed the second period mentioned, at least so far as this country is concerned; it still occupies a higher position, we believe, than that which will be ultimately assigned it.

Yet we do not for a moment suppose that Dr. Emmet would now say, as he did in the last edition of his *Gynecology*, that the operation should be done in every case in which the laceration, though healed, is evident, and in which the womb is enlarged, or in which the patient has neuralgia—a liberty of operating that in some hands may have become a gross and mischievous license. This doubt is a conviction when we read the following statement from Meyer Leopold—*Revue des Maladies des Femmes*—who recently visited this country: "Dr. Emmet has greatly modified his view of the utility of the operation, now limiting it to those cases in which the rent extends to the cellular tissue lining the vaginal cul-de-sacs, causing a peri-cervical inflammation, and hence this parametritis is regarded as the essential point of all the evil." This inflammation causes the eversion, and that eversion demands the operation. Leopold goes on to say that a laceration not involving the cellular tissue lining the vaginal cul-de-sacs does not merit the attention of the surgeon; and still further, that eversion of the lips of the womb and exposure of the cervical mucous membrane are phenomena observed independent of all tearing of the cervix—it is the pathogenetic process of change of the mucous membrane, and of the ulceration of the cervix which is its consequence; a morbid state which can be remedied much more usefully, and, especially, much more permanently, by excision of the mucous membrane and deep ignipuncture. Even in cases in which there is cicatricial ectropion, Leopold holds that other means are better than tracheloplasty.

Without endorsing in full Leopold's views, it is very evident that our distinguished countryman, Dr. Emmet, does not attach such importance to his operation as he once did, and very much less than some who supposed themselves his faithful followers. We look now for that reaction which will assign the proper place to the operation, for some have made lacerations of the cervix almost the alpha and the omega of their uterine pathology, and plastic operations for the remedying of these tears almost the alpha and omega of their uterine therapeutics. Women have been made unhappy by being told that they were so badly injured in their labor that they could never be well until the torn womb was sewed, and sometimes, possibly, unjust reproach cast upon a competent and careful obstetrician who had attended them in labor.

Hardly one woman in five hundred gives birth without some tearing of the cervix; the virgin os, the nulliparous os is lost in labor, and is never restored; in fact, the distinction between anterior and posterior lip of the the womb is without existence prior to childbirth, while it is normal afterward, and therefore in almost every woman who has borne a child one or more tears, healed or unhealed, can be discovered by expert finger and eye. The traumatism in this, as in so many of the sex-functions of woman, is physiological. Her first sexual intercourse is often attended with traumatism; traumatism marks every monthly period, the uterus, and one or the other ovaries is then wounded, and these latter organs carry until the body moulders in dust the scars of traumatisms, to which they have been periodically subjected for thirty years; it would be as needless to endeavor to restore these scarred and seamed ovaries to the condition in which they were before menstruation, or to devise a hymenoplastic—of course, gyneocologists will be grateful for a new Greek compound, their science is so poor in such treasures—operation, as to restore the parous to the virgin cervix. We have never believed that woman's uterus was so imperfectly formed, or that obstetricians were so ignorant, so meddlesome, or so mischievous in their practice, that a large percentage of women in the martyrdom of maternity

had the cervix so seriously torn that a surgical operation was necessary to repair the injury.

We are aware that the operation pompously decorated as hystero-trachelorrhaphy—it ought to be tracheloplasty, rather than trachelorrhaphy, as it is more than the simple introduction of stitches—is usually neither difficult nor long. But we further know that the immediate consequences are not always so simple and safe as most writers upon the subject have generally found them, for without seeking to learn untoward results, we know of two cases in which dangerous secondary hemorrhage occurred, others in which the operation was followed by serious pelvic inflammation, and four unpublished cases in which the patients were dead within a week.

But we are told of remarkable cures. Certainly in those cases in which the operation was plainly indicated—and we are not sure these constitute a majority of all that have been operated upon—the results have been most satisfactory. Then as to others, in which various neurotic disturbances have been relieved or cured by tracheloplasty, the thoughtful gynecologist may see only the result of a profound mental impression. Other patients are cured by the operation simply because the removal of even a small portion of hypertrophied cervix hastens absorption, and thus lessens the size of the part. Still others are, at least for the time, relieved simply by the local depletion attendant upon the operation and the prolonged rest which follows it. There remain some cases in which neither the patient nor the physician will discover any permanent good from the operation—both are disappointed. This fact we state from our own experience, from the observation of cases operated upon by others, and from the testimony of some operators themselves.

Just now the profession, in this country at least, does not so much stand in need of the voices of the enthusiastic advocates of Emmet's operation—some of whom are doing it in cases in which he he would not—as the calm conclusion of the saving remnant who seek to render exact justice to every advance in medical and surgical therapeutics.

INTERNATIONAL COPYRIGHT.

EVERY few years the question of granting American copyright to foreign authors comes to the surface and agitates the literary and publishing world. It is the natural and inevitable effort to redress a wrong of which the nation is guilty, and its recurrence at frequent intervals is to be expected until that wrong is removed. We are now in the midst of one of these periodical movements, and as the medical profession is largely composed of thoughtful reading men, to whom books are a necessity, a few words on the subject may not be amiss.

It is now three years since the last attempt was made to obtain international copyright, by what was known as the "Harper Treaty." That attempt was abandoned for reasons that were never publicly known, but its failure was attributed, apparently with reason, to the hostility of the English publishing interests to the clause requiring all books copyrighted in this country to be manufactured in this country—a provision which would seem reasonable alike for the interests of many thousands of operatives dependent upon the book-manufacture and of millions of readers who would be unable to purchase books in the costly style in which they are habitually produced in England. Early in the present session the Hon. Mr. Dorsheimer, of New York, introduced in the House of Representatives a bill granting American copyright to the authors of all countries which should grant equal and similar privileges to American authors. This bill is understood to have been drawn up by the "American Copyright League," a body formed for the purpose of securing legislation on the subject, and claiming a membership of about six hundred gentlemen, comprising nearly all the professional authors and leading journalists of the country. So large a body, thus composed, must necessarily exert no little influence, not only on account of the character of its members, but also from the fact that it controls in large part the organs of public opinion, the means of reaching the public, and the channels by which the public can make itself heard. The bill thus fathered was somewhat ostentatiously proclaimed to be purely an author's bill—a bill designed to secure the rights of authors in their literary property at home and abroad, regardless of the effects which the proposed legislation might have upon the interests of the public at large.

Copyright, like patent-right, is so purely artificial a creation, springing from modern inventions, which render the indefinite multiplication of books a possibility, and from the modern spread of education, which renders the multiplication of books a source of profit, that it has not yet reached the stage of legal recognition as an indefeasible right inherent in authorship. It is thus far the creation of statutes which professedly bestow it on the author, not for his own benefit, but for that of the public. This is expressly stated in the article of the Constitution of the United States which confers upon Congress the power to grant copyright, and thus is the only source through which copyright can be enjoyed in this country. Whatever may be the case in the future, the public is thus not yet prepared to grant additional and far-reaching rights to authorship without inquiring as to the effect which those

rights would have upon the interests of society in general. It was seen that the result of Mr. Dorsheimer's bill would be to make the United States virtually dependent upon England for its supply of future English literature, and it was felt that when English publishers should hold the monopoly of the American market, they would not be likely to adapt their forms of publication to the tastes of American readers nor to limit their profits by the requirements of the masses in this country, who want good literature, but who have been accustomed to procure it at prices almost nominal, as the result of unlimited competition. The trades interested in book-manufacture—the printers, paper makers, and others—moreover, took the alarm, and urgently protested against a measure which would so seriously cripple them.

Various amendments have been proposed to Mr. Dorsheimer's bill, with a view to reconcile as far as possible all conflicting interests—to secure substantial justice to authors without bearing too hardly upon readers and producers. These amendments are designed, in one way or another, to secure the manufacture of copyrighted books in this country, and thus to have them issued in forms and at prices suited to the necessities of American readers. Unfortunately, thus far Mr. Dorsheimer and his friends have refused to accept any such modifications of the measure, although they have not been able to show that the proposed changes would in any way prove injurious to authors, either at home or abroad.

The fact is that the American author is already well secured as to his foreign rights. By the liberal construction of the English law he can obtain a copyright in Great Britain on the simple condition of first publication there; and through his English copyright he has copyright in all countries with which Great Britain has copyright treaties. At home, however, he is subjected to the destructive competition with English literature, which can be had gratuitously, and is reproduced at the lowest practicable rates. From this competition he has a right to ask for relief, and that his natural market shall not be forestalled by supplies thus unrighteously cheapened. The English author, too, has ample ground for complaint in seeing his productions seized without leave and indefinitely reproduced without, in many cases, yielding him benefit. In fact, the only advantage he reaps from the greatest market of the English-speaking race is derived from the honorable feeling of those publishing houses who are wont to recognize an obligation that is not enforced by legal sanction, and this is a position from which he, too, has a right to ask for relief. Both of these crying wrongs would be removed by any form of international copyright, whether it requires home manufacture or not, and it is not easy to understand the persistence with which Mr. Dorsheimer and his friends refuse to permit any modification of their measure.

At this present writing the probabilities would seem adverse to the passage of any copyright measure at the present session. Should this prove to be the case, the responsibility will rest upon those who decline to recognize that the public has any claim to be heard, or that its interests are in any way to be taken into account. Yet the movement, even in such case, cannot be regarded as a failure. It is not likely that the American Copyright League will disband or be disheartened by a temporary want of success. It will doubtless continue in existence, and perhaps before next session it may learn to look at the matter in a broader light, and frame a measure which shall command such general support that the reproach of disregarding authors' rights will be removed from our statute-book with scarcely a dissenting voice.

LIGATION OF THE COMMON ILIAC ARTERY.

IN the *Centralblatt für Chirurgie*, No. 10, 1884, may be found the report of a successful ligation of the primitive iliac artery for aneurism of the internal iliac, by PROFESSOR SCHOENBORN, in which the catgut ligature and antiseptic precautions were employed. In 1883, DR. PACKARD recorded a fatal instance, with a statistical table of sixty-seven cases, in the first volume of the *Transactions of the American Surgical Association*, and DR. KÜMMELL reported to the twelfth *Congress der deutschen Gesellschaft für Chirurgie* one recovery and one death from his own practice, along with an analysis of sixty-two cases. Having made a careful examination of these papers, and added other examples which have escaped the notice of these surgeons, we are enabled to lay before our readers the results of 79 cases, which do not, however, include those of Beugnot, Dumreicher, Lemprière, and Medoro, the original references to which are inaccessible.

Grouping the cases into four classes, we find that the vessel has been tied for the following conditions: First, for hemorrhage, whether primary or consecutive to the ligation of other trunks, or during the performance of other operations 28 times, of which 4 recovered, and 24, or 85.71 per cent., died. The operators were Baudelocque, Blandin, Brainard, Buck, Busch, Carr, Czerny, De Lisle, Edwards, Gibson, Gilpin, Garviso, Hamilton, Holt, Ingram, Kümmell, Kümmell, Liston, McKee, McKinley, A. B. Mott, Mowret, Packard, Parker, Pirogoff, Post, Uhde, and Von Langenbeck.

Secondly, for the cure of aneurism 43 times, with 15 recoveries and 28 deaths, or a mortality of 65.11 per cent. The operators were Barbosa, Barral, Baxter, Bickersteth, Briarly and Hammond, Caldas,

Cock, Crampton, Cutter, D'Almeida, Garviso, Goldsmith, Gouley, Hargrave, Hey, Hunter, Isham, Jones, Knorre, Ladureau, Lange, Luzenberg, Lyon, Maunder, Mayo, A. B. Mott, V. Mott, Nicoladoni, Peace, Pitta, Richter, Salomon, Sands, Schoenborn, H. Smith, Stephen Smith, Stevens, Stone, Sulzenbacher, Syme, Syme, Van Buren, and Widderburn.

Thirdly, for pulsating tumors simulating aneurism 5 times, of which 1 recovered, and 4, or 80 per cent., died. The operators were Baker, Guthrie, Meier, Moore, and Stanley.

Fourthly, as a preliminary step to prevent hemorrhage during the removal of a tumor or amputation at the hip-joint 3 times, of which all were fatal. The operators were Bünger, Bushe, and Chassaignac.

With such a gloomy record before us, namely, a mortality of 74.68 per cent., we cannot endorse the view of Packard that it would probably be sound surgery to resort to preliminary ligation of the common iliac artery to prevent hemorrhage in amputation at the hip; nor can we agree with Kümmell, who holds that the procedure is preferable to ligation of the external iliac, for aneurism of that vessel seated high up, and of the femoral artery, because it is far less liable to be followed by gangrene of the lower limb than the latter operation.

THE PATHOGENESIS OF IDIOPATHIC ULCERS OF THE LEG.

IN a recent brochure, M. SCHREIDER attributes the occurrence of spontaneous ulcers of the leg to nutritive disturbances brought about by certain primary degenerative changes in the vascular system, and secondary alterations in the nerves of the part. In all of the cases examined he found, in the order of their appearance and succession, first, phlebectasis of the superficial and deep veins, which becomes apparent between the ages of twenty and thirty; second, atheromatous degeneration of the arteries, which manifests itself, as a rule, between the fortieth and fiftieth years; and, third, alterations in the local nerves, provoked by sclerosis of the tissues, which sclerosis is the natural result of the vascular disturbances. The part played by the nerves in the etiology of the affection is demonstrated by the general, tactile and thermal sensibility; and the disorders which the nerve lesion evokes are analogous to the purely trophic disturbances met with in diseases of the central nervous system and ascending neuritis..

MICROCOCCI OF PNEUMONIA IN SPUTUM.

As far back as June, 1883, DR. FRANZ ZIEHL (*Centralbl. für die med. Wissensch.*, No. 25) called attention to the fact that the micrococcus of pneumonia could be recognized with comparative ease in the sputum of that disease. Still more recently (*Ibid.*, February 7, 1884) he reiterates this statement. The distinctive feature of this micrococcus is the hull or capsule of mucous or gelatinous substance which Günther was the first to discover, and which Friedländer also describes as being very characteristic. It is extremely rare upon other micrococci; in fact, as good as absent in all other micro-organisms found in the human body, except the lepra bacilli, from which its shape easily distinguishes it. This capsule may surround a single coccus, or it may contain again two, three, four, or even more. It is not, however, invariably demonstrable, because from some cocci it is absent, and in certain others it is not easily discerned, while sometimes empty capsules are found. Specimens are best prepared by treating the dried sputum with a watery solution of gentian violet, and examining the colored preparation in a drop of water.

The demonstration of these micrococci in sputum, says Ziehl, has not merely an etiological, but also a diagnostic value, as they are found even before the physical signs are distinctive, or the rust-colored sputum has made its appearance; and when it is remembered how often these symptoms are wanting when the physician is first called, we may have in the finding of the organism in the sputum of pneumonia an assistance to diagnosis just as valuable as the bacillus of tuberculosis.

SYPHILITIC REINFECTION.

IN a series of contributions to the *Wiener medizinische Presse*, Nos. 1, 2, 4, and 5, 1884, PROFESSOR NEUMANN discusses the highly important question as to whether syphilis can be acquired more than once, an occurrence which has not been witnessed by Bärensprung, Sigmund, and Fournier, but has been met with by Diday, Zeissl, Bumstead, Hutchinson, Lee, and other equally careful and experienced syphilographers.

From a critical examination of the recorded examples of reinfection, Neumann reaches the conclusion that, although syphilis usually occurs but once in the same subject, cases of undoubted reinfection have been observed, but that they constitute only about one-half of the recorded instances of a second outbreak. The criteria of reinfection are a clear history of the first infection, an initial lesion, enlargement of the inguinal glands, and subsequent secondary manifestations. A sore following coitus may be a relapsing induration, a gumma, or a chancroid, the last of which lesions exhibits a marked tendency to an indurated base in syphilitic patients, so that a hard lesion seated on the genitals, without concomitant adenopathy and consecutive constitutional symptoms, is not an indication of a second attack.

REVIEWS.

What to do First in Accidents and Emergencies; a Manual Explaining the Treatment of Surgical and other Injuries in the Absence of the Physician. By Charles W. Dulles, M.D., Fellow of the College of Physicians of Philadelphia, etc. Second edition, revised and enlarged, with new illustrations. 12mo. pp. 119. Philadelphia: P. Blakiston, Son & Co., 1883.

This handy little volume makes its appearance in a second edition, which has been revised and enlarged and freshly illustrated, so that, in its present form, it is practically a new book.

It is written for the public, and the suggestions it contains are simple and practicable, so as to be easily comprehended, and readily acted upon whenever an emergency may arise. A very complete index has been provided, and, as a further aid to prompt reference, the topography has been so arranged that leading words may catch the eye on every page.

The preparation of such a book is not an easy task. It requires familiarity with every possible contingency, and the exercise of good judgment, wise discrimination, and the faculty of suggesting and adapting the simplest means to the end in view. The object of the book, to supply such information as may be of service during the interval between the occurrence of an accident and the arrival of one professionally qualified to take charge of the case, must be kept steadily in mind, so as to introduce nothing which will have a tendency to impart to the inoffensive bystander the power of officious and hurtful meddlesomeness.

Dr. Dulles has brought to the performance of his task a felicitous combination of the needed qualifications, and his little book can be safely recommended as one of the best of the kind to be placed in the hands of the public.

SOCIETY PROCEEDINGS.

RHODE ISLAND MEDICAL SOCIETY.

Quarterly Meeting, held in Providence, March 20, 1884.

(Specially reported for The Medical News.)

The Society met in Lyceum Hall, Providence, March 20th. The President, Dr. Job Kenyon, in the Chair.

The Secretary, Dr. Geo. D. Hersey, read the record of the December meeting, which was approved.

Dr. Neil O'Donnell Parks read a paper upon

TOPICAL CARDIAC BLISTERING IN THE TREATMENT OF ACUTE RHEUMATISM.

He had employed this mode of treatment in seven cases, and in one of them no other measures whatever were used; the result being in this, as in the other cases, a prompt and complete cure. In the remaining cases, salicyn, or one of its allied compounds, and ammonium carbonate were given internally. Oleum gaultheriæ was used in some instances—internally in doses of fifteen drops once in two hours, and applied locally to the inflamed joints, combined with an equal amount of lin. camphoræ comp. The series described included cases of acute articular rheumatism, and rheumatic gout, so called. In some of the cases an endocardial murmur was present. Usually, one blistering sufficed, but in case of relapse it was repeated. The writer expressed his belief that we have, in the method under consideration, a most valuable adjunct to our means of successfully treating rheumatism.

Dr. H. Terry read a paper upon the

PREVENTION AND TREATMENT OF PUERPERAL FEVER.

A most important preventive measure is to secure the prompt and firm contraction of the uterus immediately after delivery, and the attendant should guard against temporary relaxation and partial dilatation for at least half an hour, or until the condition of firm contraction becomes established. The application of cold to the abdomen, pressure, friction, ergot in small doses, and a carefully applied binder, were named as means to be employed. The writer objected to the repeated use of an antiseptic vaginal douche before delivery, as it must necessarily wash away the mucous secretion and keep the vagina so *dry* as to retard labor, and increase the danger of rupture of the soft parts. Belief was expressed in the *septic* origin of puerperal fever, and that *milk* fever is also a mild type of septic fever. He had used as injections only solutions of permanganate of potash and carbolic acid, and of the two he preferred the former. In one case cited, the douche was continued for ten days, and brandy, ʒij–v, was given hourly with quinine, anodynes, and tonics, as indicated. If the first intrauterine injection does not prove beneficial, it should not be repeated.

Dr. Lloyd Morton, of Pawtucket, exhibited a specimen of

IMPACTED INTRACAPSULAR FRACTURE OF THE NECK OF THE FEMUR.

The patient was a woman, seventy years old, and the injury resulted from muscular strain, and not from direct violence. At the time of injury, there was no shortening, no crepitus, no preternatural mobility, and the patient could even rotate the thigh. A correct diagnosis was made, however, by exclusion, as was shown, post-mortem, four weeks later, death resulting from causes independent of the injury.

Dr. H. G. Miller, of Providence, read a paper on

BLEPHAROSPASM.

He made four forms in his classification, according to the degree and severity of the case.

1. A simple spasmodic contraction (clonic) of the upper or lower portion of the orbicularis muscle—oftener of the lower portion. This condition is regarded as occurring more frequently in hypermetropia than in myopia; but, in the writer's experience, myopic persons are more prone to complain of it. The cause of the symptom, however, is not always to be found in some refractive error, but may be fatigue of the eye or of some portion of the nervous organism, or the excessive use of tea or coffee, etc. The lids of one or both eyes may be involved in this type of the disease.

2. Nictitation, which involves the muscles of both sides, causing violent and too frequent winking. It is liable to occur in children, and hyperæmia of the lids and conjunctivæ may be the cause of it.

3. An exaggeration of the natural effort of the lids to cover and protect the eyes, due most frequently to photophobia, and rendering the palpebral opening smaller than normal.

4. Spasm of the orbicularis of one side, and likewise of all the muscles supplied by the facialis nerve. Usually some twig or branch of the trigeminus is the primary seat of the trouble—in the teeth, jaws, or even the external auditory meatus. Again, it may be due to epilepsy, chorea, or traumatism. It may be of centric origin. It may be congenital, and accompanied by nystagmus. In children, intestinal worms, both lumbrici and ascarides, may be the cause. The result of this one-sided spasm is often to give the patient an appearance of adding a mysterious significance to his conversation, or, what is more serious than such disfigurement, amblyopia may be caused by it. He had observed in one case a row of abrasions of the cornea corresponding to the line of pressure of the lid.

In both the upper and lower lids are certain smooth muscles, spasmodic action of which tends to increase the palpebral opening, and expose the sclerotic beyond the conjunctival margin, and giving the peculiar staring expression sometimes seen, especially among some classes of insane patients.

Three cases were then mentioned:

Case I.—A man, thirty years old, seven months ago began to suffer from contraction of the right eyelids. The trouble soon extended to the left eye. Apparently, his general health was perfect. The spasmodic contraction in this case was so severe as to cause the corneal abrasions already referred to. He had found that any unusual excitement or diversion of his mind, such as playing on his violin, riding in the street-cars, etc., would enable him temporarily to relax the eyelids, when the eyes would resume their natural appearance.

None of the remedies as yet tried had effected permanent relief in this case. The ext. conii fl. (Tilden's) was given in doses increasing from gtt. v to gtt. xxx or xl; and subsequently Squibb's preparation, in doses going as high as gtt. lxx—all with no benefit. It yet remains to employ the method of Dr. Wordsworth, of dividing or stretching the lids outwards.

Case II.—A sempstress, aged twenty-one years, and hypermetropic in a high degree. Her eyes became useless from spasm of the lids. By correcting the refractive error with glasses, and the administration of bromide of potassium very nearly a complete cure had been accomplished.

Case III.—Man, forty years old, and myopic. Suffered severely from contractions of the eyelids and twitching of the face. Careful examination revealed myopic astigmatism of one eye, with myopia of the other. Correction of both by glasses led to a complete and permanent cure.

A case was also cited which was reported to have occurred in Belgium. Here the upper lid was so firmly contracted over the eye as mechanically to obstruct vision. The treatment was to make a permanent elliptical opening through the lid, opposite the pupil, through which the patient was again able to see.

DR. O'LEARY asked if injury to the facial nerve ever destroyed the sight, and spoke of an army officer whose face was grazed by a Minie-ball, causing a slight abrasion of the skin at the eyebrow, but very little pain. The sight of that eye, however, was immediately and permanently lost.

DR. MILLER said that, in such a case, he should regard the loss of vision as probably due to concussion of the retina; but that, indirectly, injury to the facial nerve may destroy the sight.

DR. BURGE read a report of a case of

DISEASE OF THE BLADDER, PROBABLY MALIGNANT.

The man was about sixty years of age, who attended to business until a few days before his death—nearly all the symptoms of stone had existed for some time. No urine was voided for five days before he died. The autopsy revealed a dense, whitish growth inside the bladder, occupying a surface as large as a half dollar, and so involving both ureters as wholly to occlude them.

DR. CASWELL said that he was associated with Dr. Burge in the case just reported. The bloody urine, containing crystals of oxalate of lime, frequent micturition, and pain in the end of the penis, had led him strongly to suspect the presence of stone, but a careful examination with a Thompson's searcher discovered none—a roughened surface could be felt, however. Not long after the examination the patient said he voided a small stone, which was lost. Dr. Caswell remarked, at this point, that, owing to congenital phimosis, he had been able to use no larger instrument than the one named above, in his examination for stone, and had decided to operate for the cure of the phimosis, but the patient grew worse and died in a few days. He thought it much better, when the presence of a *small* stone is suspected, to introduce, if possible, one of the tubes of the Bigelow evacuating apparatus, and wash out the bladder, as it is probable the stone would be brought out or at least engaged in the eye of the tube and removed in that way. He had made a careful microscopic examination of the growth found in the bladder in this case, and thought it to be a fibro-sarcoma, and that death resulted from the mechanical obstruction it caused rather than from its constitutional effects. The specimen was shown.

Dr. Caswell also spoke of a case which he had recently operated on at the Rhode Island Hospital. The man, twenty-seven years old, had had abscesses and fistulous openings in the perineum for two years. No stricture existed, a sound (No. 24, French) passing naturally into the bladder. He decided to operate for the cure of the three perineal fistulæ. On opening up one of them, seven small calculi were found which seemed to be fastened to the roof of the fistulous tract, where they had probably formed. These were about the size of small peas, round, rough, and of a whitish color. He was not certain whether they were oxalate or urate of lime.

DR. MORTON said, relative to the proposed

LAW FOR MEDICAL EXAMINERS,

that the bill was now before the Legislature, and would probably be enacted this session, but that the form approved and submitted by the Medical Society had been subsequently so far modified as to continue the office of coroner, and provide for medical examiners also. This was due, he said, to the great fondness that seems to prevail among the people and the legislators for the time-honored name and function of the coroner.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, March 17, 1884.

The President, William Detmold, M.D., in the Chair.

Dr. George L. Peabody read a paper on the

treatment of typhoid fever.

(See The Medical News, March 29th, page 355, and April 5th, page 383.)

Dr. Austin Flint, Jr., in opening the discussion, said that the subject of animal heat was one not only of great physiological, but also of great pathological interest; and that any measures intended to counteract a body-heat transcending the limits of normal temperature should be based on a knowledge of the physiological production of heat. There is no physiologist at the present day who does not believe that heat-production is one of the results of a class of phenomena occurring in the tissues themselves, and that heat is not supplied to the tissues by the blood. Formerly, however, it had been the accepted opinion that certain changes took place in the blood which elevated the temperature of that fluid. The lungs were supposed to be a kind of furnace in which the heat was manufactured, and the arteries, a set of flues to convey it to all parts of the body. But this was disproved by experiments; for it had been shown that the blood coming from the lungs was not hotter than that which was going to these organs. The seat of the heat-producing process, therefore, has been transferred to the tissues themselves, although it is still regarded as involving oxidation. As to the extraordinary production of heat met with in typhoid and other essential fevers, this was no doubt due to some change in the normal process which was not as yet understood. In modern physiology, the tendency is to reduce everything to mathematical exactness; and as regards the transformation of one force into another in accordance with the theory of correlation of forces, nothing is lost and nothing created. The result of the consumption of a certain amount of oxygen in the body is the formation of a certain amount of carbonic acid gas and the discharge of a certain amount of excrementitious material.

The heat-value of various elements of food has been determined by burning them in oxygen, the heat-unit being taken as the quantity of heat required to raise the temperature of one pound of water one degree Fah. The quantity of heat produced in the body has also been determined by the careful experiments of Senator and Prof. John C. Draper. The latter has ascertained that four heat-units are produced per pound weight of the body per hour. The law of the correlation of forces admits of the expenditure in the body of a certain amount of force as work; but there exist serious errors in connection with these calculations. Thus, in the transmutation of heat into force, one heat-unit is said to be equal to 772 foot-pounds; but the fallacy in the application of the law of correlation of forces has been in always considering the physiological processes from the point of view of the conversion of heat into force, while the formula that one heat-unit equals 772 foot-pounds was deduced by experiments converting force into heat and never heat into force. Some years ago, he had had the opportunity of making a series of observations upon a pedestrian while engaged in walking 317½ miles in five consecutive days. The food and drink which the subject of these observations took (every article of which was carefully weighed), with the loss of body-weight, represented 33,000 heat-units, while the heat actually produced equalled 55,000, so that there was a deficit of 22,500, or 40 per cent. In the year 1878, he himself had fasted for 33 hours, and during the last 24 hours of this period made careful observations, the first 9 hours being left for the disposal by digestion of the food already in the system. During this time 18,000 heat-units were produced, while the heat-value of the nitrogen of the urine and the carbon given off by the lungs was only 12,500 heat-units. There was thus a deficit of 5500. Afterward, he made a similar series of observations on himself for 24 hours, while taking food as usual, when he found that the difference between the heat evolved (18,000 heat-units) and the heat-value of the food taken (15,000 heat-units) was 3000 heat-units (no allowance being made for the work of the heart and of the respiratory muscles). Such facts seemed to render some modification of the theory of the production of heat necessary; and it became pertinent to ask whether water was not produced in the body by the union of oxygen and hydrogen. This was a question which was not incapable of solution by experiment, at least approximatively. It was, therefore, a point of great importance to show, if possible, that more water was discharged from the body than had been taken into it. In the case of the pedestrian before alluded to, while the body-weight at the beginning, with the ingesta, amounted to 2750 ounces, the body-weight at the end of the observations, with the urine, feces, and carbon discharged by the lungs, amounted to only 2100 ounces. The difference, 650 ounces, therefore, equalled the loss of water by the skin and lungs. In the five days, the total amount of water given off was 850 ounces; while the water in the drink and the solid food which he took amounted to 788 ounces; so that there was an excess of 62 ounces of water given off. Similar observations upon himself showed a like result. The production of anything, either heat or force, involved the consumption of material; and he had become convinced that this formation of water in the body by the union of oxygen and hydrogen was a most important factor in the production of animal heat.

In fevers there was an exaggeration of the normal heat-producing process. The fever fed upon the tissues of the body; and it necessarily followed that it must produce disastrous destruction of these tissues, unless there was something else for it to feed upon. The question, therefore, arose, how can such other material be supplied? The answer was, that it must be by means of food. Fuel for the flames raging in the system had to be furnished, and it had occurred to him that this might be best accomplished by the administration of fatty substances (such as cream and cod-liver oil, perhaps), farinaceous substances, saccharine matters, particularly glucose, and alcohol. Experience had already shown conclusively that alcohol, although a heat-producer, did not increase the temperature in fevers, but, on the contrary, diminished it. Theoretically, one ounce of French brandy was equivalent to three hundred and ninety-eight heat-units; and thirty-four ounces in the twenty-four hours would supply all the heat required in the body

of a man weighing one hundred and forty pounds. In looking at this matter from a physiological point of view, he had become so much impressed with its importance, that he was desirous to test it by treating a number of typhoid fever patients in the manner indicated. Cold baths, he thought, were useful; but if for the weeks that the fever lasted a sufficient amount of the material mentioned could be introduced into the system, he was convinced that, at the end of the attack, the tissues would be in a condition more nearly normal than if the case had been treated without the adoption of such measures.

THE PRESIDENT remarked that in advocating the administration of the hydrocarbons (and particularly the fixed hydrocarbons) from a physiological point of view, Dr. Flint seemed to forget that introducing these substances into the intestinal canal did not necessarily introduce them into the tissues. The trouble would be, that the fuel would lie inert in the intestinal canal and be discharged inert from it. He had presupposed normal digestion; while the fact was that, in typhoid fever digestion, assimilation and nutrition were very seriously impaired, and hence this fuel would not be acted on at all. He believed, therefore, that it would not be possible to carry out practically the theoretical ideas which Dr. Flint had advanced on this subject.

DR. E. G. JANEWAY said that he was afraid that an erroneous impression might be received from some of the statistics which Dr. Peabody had given in support of the treatment by refrigeration. In all such statistics the circumstances under which patients were admitted to the hospitals ought to be understood. Thus, during the late war many patients were carried for a long distance at a critical period of the disease, it being no uncommon thing to bring them all the way from Virginia to New York. At present, at the New York hospitals, patients who had had little or no attention before, were frequently brought in at a late period of the disease, when the chances were all against them. Another point worthy of note, was that Liebermeister and some others left out of their statistics all mention of the ages of the patients. The age made a very great difference in the mortality; since among the young the results were almost always good, while among the old, and even in all those over twenty years old, the reverse of this was likely to be true. In the hospital in New York which had been quoted by Dr. Peabody as having the smallest mortality, the favorable result was due principally to the fact that a considerable number of children with the disease had been treated in that institution. In the statistics of military hospitals the matter of age was not so important; but even in these it was necessary to be very guarded, because it was highly desirable to know all the concurring circumstances. During the war, patients were frequently transported for long distances in the second and third periods, when in private practice the patient would not be permitted to make the slightest exertion.

He had nothing to say against the antipyretic treatment of typhoid fever; but at the same time, he believed that very favorable results were often obtained under what was known as the expectant plan. At an outbreak at the deaf and dumb asylum a number of years ago, when the antipyretic treatment was unknown, he had treated fifty cases, with only two deaths; a mortality of four per cent. In another institution a similar good result was obtained, and he believed it was mainly due to the fact that the patients were young subjects. In Europe the authorities almost invariably left out from their statistics all those patients who died within a few hours after their admission to the hospital; which left the statistics of hospitals in this country (where such was not the practice) at a considerable disadvantage. For himself, he was a believer in the antipyretic treatment; but thought that the cold water should be used with special reference to the circumstances and character of the case. In the case of one young lady under his care, even cold sponging rendered her blue to the second phalanx of the fingers; and here he had resorted to the water-coil. Its action had not been very satisfactory, but it was the best that he could do under the circumstances, and the patient recovered; although she might perhaps have done so had no antipyretic treatment been used.

In regard to the matter of diet, he thought that more care ought to be used. One young man that he knew of, who was completely convalescent, and who had not been allowed to sit up at all until a week after all fever had subsided, at the end of a month from the time when the fever left, ate a quantity of nuts with some hard German bread. Within twenty-four hours there was probable perforation of the intestines, followed by peritonitis; showing that an atonic ulcer had probably still remained in the bowel. In regard to the eating of meat, however, considerable latitude might be allowed, and some time ago a Kentucky physician advised a meat diet all through the course of the disease. But still, while there was any doubt about the matter, it was advisable to adhere to a very careful diet. In the division of Bellevue Hospital to which he, as well as Prof. Flint, was attached, systematic refrigeration by cold water had been practised for several years.

DR. AUSTIN FLINT, SR., said that the Association was certainly to be congratulated in having presented to it two such admirable papers on typhoid fever as those of Dr. Janeway and Dr. Peabody. In regard to the views expressed in the latter, he differed from the writer in only one point, and that not a very important one. This was in regard to the value of cold sponging. His observation had led him to believe that sponging, if properly carried out, was a very efficient means of reducing temperature; but it was essential that it should be very thoroughly performed. Like Dr. Peabody, he had formerly had a portable bath-tub fitted up for use in the hospital wards, but he had found the bathing a very inconvenient method, and his experience went to show that all the advantages of the full bath could be obtained in other ways more easily followed out. In any case when sponging did not answer the purpose, he was in the habit of using the cold pack, wrapping the patient in a sheet and then sprinkling cold water over it; and for several years he had practised this method with advantage. He had therefore dispensed with the cumbersome bath-tub. He agreed with Dr. Peabody in the opinion that solid food should be given at a comparatively early period, and thought that it was a good rule to let the patient have it as soon as he himself desired it. It had been claimed that iodine and calomel cut short or cured typhoid fever; but he did not believe that as yet we had any specific for this disease, and until one had been discovered, it was necessary to treat

every case in accordance with the special character of the symptoms present. In regard to the administration of alcohol, he had passed through three phases of opinion on the matter. When he first began the practice of medicine no alcohol whatever was allowed, and the patient was starved as far as possible. Later, there came a revulsion of feeling in regard to it, and it was employed to excess; while at the present time there seemed to be a tendency, he thought, not to appreciate the very great advantages of the free use of alcohol in appropriate cases.

DR. PEABODY said that besides the objection to the suggestion of Dr. Flint, Jr., mentioned by Dr. Detmold, there was an additional one, viz., the difficulty of getting the patient to take the kind of food recommended. It was well known how hard it was to get typhoid fever patients to take a sufficient quantity of nourishment under any circumstances, and he was positively certain that they would object very strongly to taking sweet or greasy articles. In regard to Dr. Janeway's criticism upon European statistics, as regards the age of patients and the stage of the disease when treatment was commenced, he thought that, as a rule, the same would apply also to hospital statistics in this country, where these facts were as little determined as abroad. As to the exigencies of war causing a higher rate of mortality, the death-rate from typhoid fever among the white troops the year after the late war amounted to forty-nine per cent. As to the efficacy of cold sponging and the cold pack, he wished to say that, paradoxical as it might appear, he agreed with Professor Flint. When the sponging was thoroughly carried out, he believed that it was efficient; but the trouble was that, as a rule, it was *not* properly performed. In the special case to which he had referred there was a trained nurse who was considered properly qualified for the position in all particulars, and yet the temperature had remained unaffected. He had, therefore, urged the use of the full cold bath as the most efficient means of reducing temperature in the average case of typhoid fever.

THE CORRECTION OF DEFORMITIES BY MODIFICATIONS OF THE THICKNESS OF THE SOLE OF THE SHOE.

THE PRESIDENT made some remarks, illustrated by diagrams on the blackboard, on the correction of certain deformities in the young by the simple device of thickening the inside or outside edge of the sole of the shoe, as required. In weak ankles, which were exceedingly common among girls, owing to the breadth of the pelvis, which gave a tendency toward knock-knee, there was always a protrusion of the internal malleolus. This was ordinarily treated by placing a certain amount of stiffening on the inner side of the shoe, and, this failing, by the use of iron splints. The simplest and best way of correcting the deformity, however, was by making the inner side of the sole thicker than the outer, which had the effect of lifting the weight off of that portion of the skeleton. The same method answered for the correction of knock-knee, but when the child was bow-legged, the thickening was to be placed on the outer instead of the inner side of the sole. If one leg was shorter than the other, there would inevitably result more or less tilting of the pelvis; which had the effect in time of producing lateral curvature of the spine, with its secondary or compensating curvature. This could easily be remedied, when taken in time, by making the sole of the shoe for the foot of the shorter limb sufficiently thick to bring the transverse axis of the pelvis at right angles to the lower extremities. Dr. Detmold also explained his method of treating flat-foot (which was common in young girls who were poorly nourished and who were obliged to remain in a standing position much of the time), as well as elevation of one shoulder above the other. In five out of every nine young girls, he thought, the right shoulder was a little higher than the left.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, March 11, 1884.

THE PRESIDENT, R. F. WEIR, M.D., IN THE CHAIR.

TRAUMATIC RUPTURE OF THE TRACHEA.

DR. J. L. LITTLE presented a trachea removed from a man sixty years of age, who died in St. Vincent's Hospital, having been struck in the neck and upper part of the sternum on Saturday last, by one of the shafts of a truck. When he first saw the case, five hours after the injury, he found the patient emphysematous from the head to the lower part of the abdomen. There was considerable ecchymosis over the sternum. No difficulty in breathing. No cough or pain on pressure over the upper part of the sternum and trachea. Had had slight expectoration of blood before entering the hospital. The emphysema was greater over the chest than elsewhere, and less about the neck. Injury of the trachea was suspected. The patient was anæsthetized and a careful examination was made over the trachea and larynx, but no injury of these parts could be detected, and, as there were no symptoms of suffocation, it was thought best not to perform tracheotomy. He, however, gradually sank and died this morning, sixty hours after the injury. There was considerable cyanosis during the last twelve hours, but no symptoms of suffocation.

The autopsy showed a complete separation of the fourth and fifth rings of the trachea, with signs of recent inflammation and hemorrhage in the surrounding tissues. Double hypostatic pneumonia and pleurisy also existed.

FLOATING CARTILAGE IN THE KNEE-JOINT; REMOVAL.

DR. LITTLE also presented a specimen of floating cartilage, which he removed from the knee-joint of a patient who came under observation three weeks ago, having suffered from a slight pain in the knee for ten years. About six weeks ago, he noticed symptoms for the first time, indicating the presence of a loose cartilage, and on examination a movable body was discovered which was quite prominent. On the 28th of February last, Dr. Little removed it under strict antiseptic precautions.

The operation was performed as follows: A bandage was applied from the leg to a point just above the patella, so as to keep the loose cartilage in the upper part of the joint. It was then fixed at a point on the outer side of the joint by a strong acupressure needle passed through the tissues. An incision was made, and it was removed with a pair of bullet-forceps. The edges of the wound were brought together by two catgut sutures. The synovial membrane was not included in

the sutures. A compress of iodoform gauze and a full Lister dressing were applied.

Patient did well until the morning of the fourth day, when he had a chill and a sudden rise of temperature (102°). On removing the sutures, about half an ounce of pus escaped from the wound. The synovial cavity was found to be slightly distended, but no fluid could be pressed from the joint through the wound. Believing that the collection of pus was external to the joint, he redressed it; in a few hours the temperature subsided, and in forty-eight hours the effusion disappeared from the joint, and the patient made a rapid recovery.

DR. W. T. BULL had removed three of these cartilages. In two cases he put in no sutures, and the result was satisfactory. In the third case he used sutures, and the man had a very troublesome effusion, which lasted for six months, coming and going. He employed catgut sutures, and they were introduced through the capsule.

DR. SANDS had performed, within the last six months, three operations upon the same patient; the right knee being operated upon twice, and the left knee once. In each case the operation was performed in the same way, the joint being directly incised, and the edges of the cutaneous wound being united by sutures after the removal of the floating cartilage. Bichloride solution was the antiseptic employed, and peat was used as a dressing. In all the cases primary union took place without rise of temperature, and without effusion into the joint.

DR. A. G. GERSTER had also had occasion to operate upon three patients, in two of whom there were three movable bodies, one of which could be proved to be chipped off from the tibia; the second was a smooth almond-shaped body, the origin of which could not be ascertained; the third he was obliged to manipulate for considerably, and it was found that several small bodies were attached by pedicle to the ligamentum alare near the inner margin of the patella. These growths had to be extirpated from their attachments, and it became necessary to tilt up the patella and expose its under surface for this purpose. In all three cases the joint was washed with a five per cent. carbolic solution, it being before the advent of the bichloride solution. In all of the cases a supporting suture was applied through the capsule, and after that skin stitches were introduced, and in every case a drainage-tube of small calibre was left in the joint for the purpose of removing as much effusion as might take place, but this tube was removed on the fourth day. In all the cases the dressings were antiseptic and recoveries were uninterrupted.

THE PRESIDENT had an instance brought to mind by Dr. Gerster's last case, that is, the presence of fatty growths in joints. Last autumn he cut into the knee-joint for the removal of a loose cartilage, situated on the inside of the patella, movable in various directions, but attached somewhere in the region of the patella, and about the size, as felt through the skin, of the end of his little finger. On reaching it, it was recognized as being not of the usual cartilage formation, but softer; and, subsequently, on microscopical examination it proved to be fibrous tissue with fat. It was analogous to the fatty growths which Barwell had described, and had removed successfully from the knee-joint; and Volkmann also speaks of similar troubles in the same joint. In his case considerable manipulation of the joint was resorted to in the removal of the foreign body, and although antiseptic precautions were used, the wound and the joint washed out with sublimate solution (1 to 5000), and a drainage-tube inserted, the case went to the bad, and suppuration of the joint and of the tissues about the articulation took place; threatening septicæmia developed, necessitating amputation of the thigh, which was done after Neuber's method, with rapid healing. The process of inflammation had, however, so destroyed the tissues of the joint that he was unable to demonstrate anything further concerning the connection which this peculiar formation had with the joint itself, although it was evidently a hypertrophy of the subpatellar fatty tissues.

He had, also, since met with one other case of this kind, but he did not operate upon it. He saw last week at his college clinic, a woman about fifty years of age, who had had symptoms of floating cartilage during the last twenty years. The body was quite large, and was situated at the inner and upper aspect of the joint, and from the symptoms and from the attacks of its catching between the articular surfaces, he assumed that it was attached by a somewhat long pedicle. The patient was unwilling to have an operation performed, because she suffered but little, and the permanent joint damage was not marked. The special interest in the case was the rather long time for such a difficulty to exist without serious impairment of the joint.

DR. GERSTER asked Dr. Little if he applied a posterior splint after his operation.

DR. LITTLE said that he had neglected to state that he applied a posterior splint after the operation, so that the joint was kept perfectly quiet.

THE PRESIDENT had employed a splint and also used firm compression, after opening the knee-joint.

DR. SANDS said that in his three cases the limb was placed, after the operation, upon a posterior splint, and the dressing was not removed for two weeks.

DR. BULL said that in all his cases he used the typical Lister dressing and a posterior splint.

DR. GERSTER said that he also applied a splint in all his cases.

EPITHELIOMA OF THE LARYNX.

DR. MCBURNEY presented a specimen with the following history: It was removed from a male patient, fifty-nine years of age, who first exhibited symptoms of disease four months ago, the first being the discovery of a small swelling in the right side of the neck beneath the angle of the jaw. It was not until the end of January that any dysphagia was noticed, but there was no dyspnœa. When he came under Dr. McBurney's observation in February, the man had a large tumor on the right side of the neck, extending from the angle of the jaw nearly to the clavicle. He was able to speak with quite a clear voice, complaining almost not at all of difficulty of swallowing, although at times of some difficulty in swallowing solid food. On examination with the laryngoscope, Dr. McBurney was able to see a large mass apparently filling the entire lumen of the larynx, and the appearance was such that he was unable to account for the excellent voice. He had no means of determining the extent of the growth, although its appearance indicated that it extended down the œsophagus. The patient died on Friday last. He swallowed

fairly well up to that time, although there had been steadily increasing dysphagia. The voice remained very good until death. The specimen showed that the true vocal cords were entirely unimpaired.

Dr. McBurney also presented the specimen removed from the neck, which was probably carcinomatous, although the microscopical examination had not been completed. The most interesting feature perhaps was the condition of the artery seen upon the back of the specimen, where, near its bifurcation, endarteritis obliterans was apparent, and the vessel just above was firmly attached to the tumor. There was no direct positive union of the two tumors, but he inferred that the laryngeal was the original growth, and that the tumor in the neck was secondary, and one which began in the lymphatic glands.

EPITHELIOMA OF THE CERVIX; EXTIRPATION OF THE ENTIRE UTERUS THROUGH THE VAGINA; RECOVERY.

DR. W. T. BULL presented a uterus which was the seat of cancer, involving the greater part of the cervix. It was removed by the vaginal method on the 17th of February, 1883, from a patient forty-five years of age, who had had symptoms of uterine cancer one year previous to admission to the hospital. At the time of admission, the growth formed a large cauliflower excrescence at the upper part of the vagina, and apparently did not involve the body of the uterus. She had not received any treatment. The urine had a specific gravity of 1020, was acid, contained a little albumen and a few hyaline casts. The uterus was removed by Czerny's method without difficulty, although the operation was laborious and long from the care required to dissect the expanded cervix from the base of the bladder. The broad ligaments on either side were secured with two carbolized silk ligatures and cut between them. The peritoneal wound was loosely held together with four or five sutures. Just before the time the sutures were introduced, a mass of intestine or omentum could be seen at the bottom of the wound. In passing the sutures through the peritoneum, hemorrhage occurred from one of the broad ligaments, which was controlled by the hæmostatic forceps, and it was necessary to leave the instrument in position. The wounded surfaces were dusted lightly with iodoform, the vagina was packed with small iodoform peat bags, and the vulva covered with borated cotton. There was but slight reaction, and, at the end of five days the first dressing was made, and while there was more or less discharge, there was no evidence of decomposition whatever. At that time the hæmostatic forceps were removed. The further progress of the case was rapid; at the end of one month the patient was able to sit up, and soon afterward left the hospital. For eight months afterward the patient continued in very much better health than she had enjoyed for years previous to the operation, and believed herself to be cured. There remained, however, a small spot at the top of the vagina which was not disposed to heal, although her general condition was quite good. About nine months after the operation there appeared a hard nodule on the posterior vaginal wall, which was removed with the curette, together with the small spot previously noticed. For a month afterwards the condition of the parts remained unchanged. From the tenth month after the first operation up to the present time, the patient's health has slowly declined, and now, nearly thirteen months after the first operation, she is worse than at the time she first entered the hospital. She has a pelvic tumor about the size of a child's head, and has the distressing abdominal symptoms which usually accompany this condition, yet there has been no offensive discharge from the vagina, nor hemorrhage.

In two other cases he had attempted the same operation, and, being unable to get the uterus out with safety, had simply contented himself with the effort to remove as much as possible after dissecting the tumor from the bladder and rectum, without opening the peritoneal cavity. Both patients recovered rapidly from the operation, although in one the cul-de-sac of Douglas was accidentally opened. He thought the operations had been of much benefit to the patient, especially with reference to getting rid of the offensive discharges and hemorrhages which almost invariably accompany cancer of the uterus. One woman, who had several hemorrhages before the operation, went six months without any bleeding or abundant discharge, and died a year afterwards. The other had been operated on but a few weeks ago.

DR. LANGE said that he had presented to the Society one patient from whom he had extirpated the uterus totally for sarcoma two years ago. About six weeks ago he saw the patient, and she was apparently entirely healthy. In two other cases in which he had performed the supravaginal amputation—one for a very large myosarcoma and the other for a large fibroma—the patients were still quite well; one sixteen months after the operation, and the other nine or ten months after the operation.

SARCOMA OF KIDNEY.

DR. J. L. LITTLE presented a specimen which he removed at St. Luke's Hospital by operation on September 11, 1883, from a girl four years old. According to the mother's statement the child's abdomen had been swollen and hard from birth. One month previous to admission this enlargement began to increase rapidly. On examination the abdomen was found to be greatly distended, very tense and fluctuating, and the subcutaneous veins over the surface were enlarged. The enlargement of the abdomen was so great that it prevented the child from walking or standing. There was marked dulness on percussion over the right side of the abdomen extending several inches beyond the median line. From this point it was tympanitic; a distinct tumor could be felt occupying the entire region of dulness, extending upwards to the margin of the ribs. There was no œdema of the feet. The urine was normal, and the child's general health was good.

On September 15th the tumor was aspirated, and about eight ounces of dark-red fluid were removed. On examination it was found to contain blood globules, but no further evidence as to the character of the disease was revealed.

A consultation was held, which resulted in a diagnosis of a cyst, probably connected with the kidney—hydro-nephrosis; and an explorative incision was advised.

On September 25, Dr. Little performed the following operation under strict antiseptic precautions: He opened the abdominal cavity by an incision two or three inches

long between the umbilicus and pubis, which was subsequently enlarged. A considerable quantity of fluid at once made its escape from the abdominal cavity. The tumor was found situated beneath the posterior layer of the peritoneum, extending from the pelvis up to the borders of the ninth or tenth rib, and overlapping the spinal column. A large trocar was passed into the most prominent part and nearly two quarts of a dark-colored fluid were evacuated. It was then found that the upper portion of the tumor was solid. The peritoneum covering the tumor was then opened and the growth carefully enucleated. Its upper part was found to be in such intimate connection with the kidney that it was necessary to remove that organ. A ligature was passed around the renal vessels and the whole mass was removed. The hemorrhage during the operation was not great, and was readily controlled. The peritoneum was closed by catgut, and the abdominal wound by silver wire sutures, and Lister's dressings were applied. The condition of the patient during the later part of the operation was very feeble, and, although every means to bring on a reaction were used, she died from shock about half an hour after the completion of the operation.

Microscopical examination of the tumor was made by Dr. Frank Ferguson:

Small round-celled sarcoma with cysts. The tumor arises from the anterior aspect of the lower end of the right kidney. Its shape is spheroidal, and it measures six inches in diameter. It is surrounded by a fibrous capsule, rich in small round and spindle-form elements, and continuous with the capsule of the kidney. There are numerous cysts of various sizes throughout the tumor, into some of which hemorrhage has occurred; but, as a rule, their contents are a clear serum-like fluid, rich in albumen, and a few of the small round cells of which the tumor is composed. In these cysts are also found kidney tubules and glomeruli. Kidney structure is also seen throughout the tumor. The cells which compose the tumor are supported by a delicate framework of fibrillated material; and the entire tumor is rich in its vascular supply. The kidney is slightly larger than in subjects of this age, and, on microscopic examination, normal in structure beyond the line of invasion of the morbid growth.

Stated Meeting, March 25, 1884.

THE VICE-PRESIDENT, CHARLES MCBURNEY, M.D., IN THE CHAIR.

LARGE TUMOR OF THE THIGH.

DR. JAMES L. LITTLE presented a patient, a man, forty-eight years of age, whose horse reared and fell upon him while in the army, twenty years ago, the pommel of the saddle inflicting a contusion on the inner aspect and about the middle part of the left thigh. An inflammatory swelling followed, which lasted from the twenty-third of June until winter, and then disappeared entirely. Five years afterward, a swelling occurred up and down the thigh, along the site of the original injury, which gradually increased until it reached the present size. The circumference of the right thigh was nineteen inches; the circumference of the left thigh around the tumor was thirty-one and a half inches. It was a painless, movable swelling, which Dr. Little regarded as a lipoma, and also thought it was a proper case for operation.

DR. A. G. GERSTER inquired whether the tumor had been punctured, and the patient replied that only small needles had been introduced, but the aspirator had not been used. Dr. Gerster continued, and recalled the case of a tumor of this kind, situated in the same locality, that came under his observation at Mt. Sinai Hospital, four years ago, in which the diagnosis of cyst was made after puncture, but it finally proved to be an old abscess.

It seemed to him that the tumor in Dr. Little's case was pretty well outlined by the entire extent of the adductor muscles. He was unable to find any lobulation, such as usually exists in lipoma, and he believed that in order to make the diagnosis clear it would be very important to make puncture. The contents of the tumor to which he referred contained an enormous quantity of cholesterine crystals. It had occupied five years in developing; its growth was very gradual, and there was an early history of very severe pain in the thigh. Exsection of the tumor was attempted, and when he reached what was supposed to be the capsule, it was found to be simply a pyogenic membrane, closely attached to the inner surface of the adductor muscles. A very large quantity of peculiar shining liquid was evacuated, which contained cholesterine crystals and detritus. Samples of the fluid removed by puncture prior to the operation were submitted to two microscopists, one of whom diagnosed undoubted ovarian tumor. After having evacuated the contents, he found floating in the cavity a small solid body, which was found to be a portion of the cortical substance of the femur from the vicinity of the small trochanter, and examination of that locality revealed a slight depression. He concluded that a cortical necrosis with myelitis took place five or six years ago, and that a sequestrum was released and became the point around which an abscess formed, and that the original site of the osteomyelitis had healed, and the cold abscess continued to exist with its pyogenic membrane, which gradually increased to the size of the apparent growth. The man recovered entirely.

DR. LITTLE said that he operated on a tumor of the thigh, similar to the one described by Dr. Gerster, in February last, which was very large, and which moved with every movement of the muscles. Upon tapping it, a shining, yellow fluid was removed, which was filled with cholesterine crystals. The sac was laid open and the inner surface of the cyst was found to be covered with granulating material, which was scraped off, and the case did well. It was supposed to be the result of an old abscess. Antiseptic precautions were used.

DR. T. M. MARKOE said that from the feel of the growth he should doubt whether it was a cystic tumor. He found that it was beneath the fascia lata, and that it was continuous with the adductor tendons below, which passed internal to the tumor and formed a part of its internal surface: that fact alone would induce him to doubt whether it was a fatty tumor. Another feature which led him to doubt as to its being a fatty tumor was the fact that no corrugation of the surface was seen when it was pressed together—a feature almost characteristic of lipomatous growths. He was inclined to regard it as a form of sarcoma.

DR. GERSTER thought that the length of time which

the tumor had existed spoke against the sarcomatous character of the growth, and there was also a notable absence of any systemic disturbance.

Dr. Little remarked that he had removed one fatty tumor much larger than this one, situated in the same locality.

Dr. Briddon said that that some ten or fifteen years ago he saw a tumor like this in the gluteal region, which was influenced by some of the muscles arising from the pelvis and inserted into the femur. In that case he used the aspirator, as he thought, for the first time it was used for this purpose in this city, and the results were negative. Supposing it to be a fatty tumor, he made a long incision for its removal, but it turned out to be an abscess with a very thick covering, which prevented fluctuation from being detected.

Dr. Markoe said that a form of tumor had been described by Paget as fibro-cellular, the histological type of which was loose, areolar cellular tissue infiltrated with serum, etc., which may attain an enormous size and yet possess none of the elements of malignancy. He thought the tumor in Dr. Little's case corresponded more nearly to that form of growth than to any other.

CORRESPONDENCE.

LIME INHALATIONS IN DIPHTHERIA.

To the Editor of The Medical News.

Sir: Having seen lime inhalations used on several occasions, both in diphtheria and membranous croup, and being convinced of their value, I was surprised by the remark of Dr. Kolipinski, in the number of The Medical News for March 22, that the value of the treatment depended upon the vapor of hot water.

To prove the correctness of this statement I made the following experiment: A wide-mouthed glass bottle, containing unslaked lime and a sufficient quantity of water, was rapidly corked and connected by a glass tube, in the usual manner, with a beaker containing a solution of carbonate of sodium. The vapor arising from the slaking lime was passed through the solution of the alkaline carbonate, but no white precipitate was produced, proving the absence of lime. The same experiment was repeated, a solution of oxalic acid being substituted for that of the carbonate, but no precipitate of oxalate of lime formed.

It may be claimed by some that lime is carried along by the vapor in the form of a powder, and thus comes in contact with the exudations of the fauces and air-passages, but the glass tubes used in these experiments were of good size, and any particles of lime which might have been carried along, mechanically, with the vapor, could readily have passed through the tube, but no sediment of any kind was noticed in the solution either of the carbonate or the acid.

The fact, however, remains that the vapor of hot water is of great benefit in the treatment of diphtheria and membranous crup, but some more convenient ways of generating steam for inhalation may often be at hand than the method of producing it by the slaking of lime.

Respectfully,

Bernard Persh, M.D.,
Hospital Steward, U. S. A.

The Frankford Arsenal, Pa., March 26, 1884.

THE LOCAL TREATMENT OF ERYSIPELAS.

To the Editor of The Medical News.

Sir: The March number of the *College and Clinical Record* contains the report of a clinic of Professor Bartholow, in which, with reference to the local treatment of facial erysipelas, and the various applications that have been used, he says: "We cannot, as a rule, prevent the spread of the disease by the remedies mentioned. We cannot prevent or limit, by such measures, the constitutional condition." For several years I have used a mixture of salicylic acid (Squibb) one drachm to glycerine and rose-water each half an ounce, applied with a camel's-hair pencil frequently and thoroughly over the affected parts, taking care to cover well beyond the line of demarcation. I have a record of quite a number of cases treated in this way, and in every instance the first or second application was sufficient to check the spread of the disease. The only internal treatment used was some saline water or mixture.

Yours very truly,

H. M. Shallenberger, M.D.

Rochester, Pa., March 28, 1884.

THE DISCOVERER OF THE MICROCOCCUS OF SWINE-PLAGUE.

To the Editor of The Medical News.

Sir: In your number of March 15th, attention is called to an article by Dr. D. E. Salmon, in *Science*, in which it is claimed that Pasteur was wrong in acknowledging Dr. H. I. Detmers as the first discoverer of the swine-plague parasites. Dr. Salmon's paper in *Science* does such injustice to the merits of Dr. Detmers, that it seems incumbent upon his friends to vindicate the latter investigator's title of priority.

Dr. Klein, of London, described, in his first article, micrococci in the bodies of dead pigs, the description of which agrees with the observations of later authors. But he did not prove these micro-organisms to be the cause of the disease. This proof was furnished for the first time, by Detmers, in 1878, in the Special Report of the United States Commissioner of Agriculture (No. 12, p. 37, etc., and Annual Report, 1878, p. 347). He found invariably a specific kind of bacteria in the fluids and diseased tissues of the animals just killed. He obtained growing cultures of these bacteria in sterilized fluids out of the body, and, by inoculation with traces of these cultures, he reproduced the typical hog-cholera in previously healthy pigs. Since all precautions necessary to render such experiments faultless were fully carried out, no flaw can be detected in Detmers's demonstration of the bacterial origin of the disease. He did, however, commit a mistake in the description of, and name given to, the parasites. He termed them "moniliform bacilli;" for, with his insufficient lenses, they appeared as serrated rods. Better instruments resolved them subsequently into diplococci and coccus-chains. The error in the botanical description of the bacteria was hence corrected in the following year (Special Report No. 22, p. 60, and Annual Report, 1879, p. 412). The description of the characteristic mode of grouping, and the drawings of the parasites in these first two reports, as well as in the later one of 1880, show that Dr. Detmers really dealt with the same micro-organisms in all these instances.

Since Dr. Salmon did not mention the existence of swine-plague bacteria in any of his articles prior to December, 1880 (Special Report, No. 34), and since in this first account of his, no results are brought forth in advance of what Detmers had discovered one or two years previously, the injustice to Dr. Detmers is manifest.

Respectfully yours,

H. GRADLE, M.D.

CHICAGO, March 20, 1884.

NEWS ITEMS.

CHICAGO.

(From our Special Correspondent.)

THE COMMENCEMENT OF THE CHICAGO MEDICAL COLLEGE took place in the Grand Opera House on March 25th. The graduating class consisted of thirty-nine members.

The Dean, Dr. N. S. Davis, made some remarks in view of the twenty-fifth anniversary of the institution. He vindicated for it the honor of having been the first American medical college that introduced the graded system of instruction.

From its start this College was the only one, for twelve years, that did not repeat to the same class of students the same annual course of lectures, both elementary and advanced. Twelve years later Harvard College imitated this system, and was then followed by the University of Pennsylvania and a host of other institutions of medical learning.

The college, beginning twenty-five years ago with a modest class of thirty students and nine graduates, has since had 2773 matriculants and sent out 863 graduates.

THE SIXTH REPORT OF THE GERMAN CHOLERA COMMISSION.—The following is the text of the sixth and concluding report of the German Cholera Commission:

The question whether the bacilli found in the bowel of cholera patients are parasites belonging exclusively to cholera, which was left undecided in my last report, can now be looked upon as settled.

At first, on account of the varying pathological appearances presented by the bowel in cholera, and on account of the large number of bacteria always found therein, it was extraordinarily difficult to discover the truth. In most cases death does not occur at the height of the cholera process, but in the reaction-period which follows immediately after, and in which such considerable changes take place in the bowel and its contents, that it is impossible from such cases alone to obtain a clear idea of the cholera process. It is not until one has had the opportunity of examining a number of uncomplicated cases, and of comparing with them cases recently attacked, that one can succeed in obtaining a true insight into the pathological relations of cholera. For this reason it was thought right to exercise the greatest caution in interpreting the discoveries made with regard to bacteria in cholera, and to reserve a definite judgment on their causal relation to the disease until we had fully made up our minds on the subject.

In the last report I was able to state that peculiar characters had been found in the bacilli tenanting the cholera bowel, by which they could be distinguished with certainty from other bacteria. Of these features the following are the most characteristic: The bacilli are not quite like a straight line as other bacilli, but a little curved, like a comma. This curving may even be so marked that the bacilli assume almost a semicircular outline. In pure cultivations these curved bacilli often give rise to S-shaped forms, and to wavy lines of varying length, the former of which correspond to two individuals, and the latter to a considerable number of the cholera bacilli, which have remained in connection as they continued to proliferate. They possess, moreover, movements which are very active, and may be best observed in a drop of the cultivation solution suspended from a covering glass. In such a case one sees the bacilli swim across the field of the microscope with great rapidity in all directions.

Their behavior on gelatine is peculiarly characteristic. They form colorless colonies which, at first, look as if they were composed of tiny glittering fragments of glass. Gradually these colonies cause the gelatine to melt, and then spread themselves out to a moderate extent. In gelatine cultivations, therefore, this peculiar appearance enables one to distinguish them from other colonies of bacteria with great certainty, and to isolate them from the latter with ease. They can, moreover, be demonstrated with comparative certainty by cultivation on concave slides, as they always betake themselves to the margin of the drop of cultivation liquid, and can there be recognized by their peculiar movements, and, after staining with aniline, by their comma-like shape.

So far, twenty-two cholera cadavers and seventeen cholera patients have come under examination in Calcutta. All these cases were examined for the presence of the specific bacteria, both by the help of gelatine cultivations and also by microscopical preparations, and, in most cases, by cultivation on concave slides; the comma-like bacilli were found in all, without an exception.

This result, taken together with that obtained in Egypt, justifies the conclusion that this kind of bacterium uniformly occurs in the cholera bowel.

With the view of controlling the result, there were examined in exactly the same manner twenty-eight other cadavers (including eleven dead from dysentery), and also the evacuations of a case of simple diarrhœa, of dysentery, and of a healthy patient who had recovered from cholera, besides various animals, both healthy ones and others which had died of ulceration of the bowel and pneumonia; and lastly, we also examined water contaminated with putrid masses. In not a single case, however, did we succeed in demonstrating the cholera bacilli, either in the stomach or bowel of the cadavers, or in the evacuations, or in the other fluids, rich as they were in bacteria. As a disease process very similar to cholera is produced by poisoning with arsenic, an animal, so poisoned, was examined to see if the comma-bacilli were present in the digestive organs, but in this case also the result was negative.

From these results the further conclusion may be drawn, that the comma-like bacilli are altogether peculiar to cholera.

As to the relation of these bacteria to cholera, I have already explained, in a previous report, that either this specific kind of bacterium is specially favored in its growth by the cholera process, and hence combined in

such a striking way with cholera: or that the bacteria are the cause of cholera, and the disease only arises when these specific organisms have found their way into the bowel. The first hypothesis cannot be accepted, for the following reasons: It must be assumed that a man when he sickens with cholera has already this kind of bacterium in his alimentary canal, and further, inasmuch as these peculiar bacteria were found without exception in a comparatively large number of cases both in Egypt and in India, two widely separated countries, it follows that every man must be tenanted by them. This, however, cannot be the case, for, as already stated, the comma-like bacilli have never been found except in cases of cholera.

Even in bowel affections, such as dysentery and enteric catarrh, which so often pass on into cholera, they were absent. It is also to be remarked, that, if these bacteria had been so regularly present in human bodies, they certainly would have been previously observed at some time or other, which is not the case.

As, therefore, the growth of these bacteria in the bowel cannot be produced by cholera, there remains only the second hypothesis, that they are the cause of cholera. That this is indeed the case, a number of other facts attest in an unmistakable manner; above all, their behavior during the disease process. They confine themselves to the organ which is the seat of the disease—the bowel. In vomit they have only been twice recognized, and in both cases both the appearance and the alkaline reaction of the vomited fluid have proved that bowel contents, and with them the bacteria, have obtained access to the stomach. In the bowel itself they conduct themselves as follows: In the first evacuations of patients, and as long as these retain their fecal character, only very few cholera bacilli are found; the subsequent watery, inodorous evacuations, however, contain them in great numbers, all the other forms of bacteria almost completely disappearing from that moment, so that at this stage of the disease, the cholera bacilli form in the bowel almost a pure cultivation. As soon, however, as the attack of cholera subsides and the evacuations again become fecal, the comma-like bacteria gradually disappear from the evacuations, and when the disease has completely passed over, are no more to be found. What is found in cholera cadavers is exactly similar. No cholera bacilli are met with in the stomach. The bowel contains them in varying numbers, according as death has occurred during the cholera attack, or after it. In the most recent cases—in which the bowel presents a uniform bright-red color, the mucous membrane is still free from extravasations of blood, and the contents of the bowel consist of a whitish, inodorous fluid—the cholera bacilli are found in the bowel in enormous quantities, and almost pure. Their distribution corresponds quite accurately to the degree and extension of the inflammatory irritation of the mucous membrane, while in the upper part of the bowel they are not usually so numerous, but increase toward the lower portion of the small intestine. If, on the other hand, death occurs later on, we find the signs of a considerable reaction in the bowel. The mucous membrane is of a dark color; in the lower part of the small intestine it is covered with blood extravasations, and its most superficial layers have often ulcerated away. The contents of the bowel are in this case more or less blood-stained, and, in consequence of renewed development of putrefactive bacteria, are putrid in character and offensive. The cholera bacteria in this stage do not reappear in the contents of the bowel, but they are still present in considerable numbers for some time longer in the tubular glands, and often also in the neighboring tissues, a fact to which attention was first called by the appearance of these peculiar bacteria in the bowel of the Egyptian cholera cases. They are entirely absent only in those cases which die from some sequela, when the cholera attack has quite passed off.

The cholera bacteria behave, then, exactly like all other pathogenic bacteria. They appear exclusively in their own peculiar illness, their first appearance coinciding with the commencement of the disease; they increase in number proportionally to the advance of the disease; and disappear with its decline. Their seat corresponds in like manner with the extension of the disease-process, and their number is, at the height of the disease, so considerable as to be quite sufficient to explain their destructive influence upon the mucous membrane of the bowel.

It would certainly be very desirable to succeed in producing in animals artificially, with these bacteria, a disease analogous to cholera, so that their causal relation to cholera might receive ocular demonstration. In this, however, we have not yet succeeded, and it is even questionable whether success will ever be attained in this direction, because, according to all appearance, animals are insusceptible of the cholera infection. If any species of animal whatever could take the cholera, it would surely have been observed in a reliable manner in Bengal, where the infective material of cholera is met with throughout the year and throughout the land. All inquiries, however, directed to this point have met with a negative result.

Nevertheless, the demonstrative force of the facts given above is not weakened by the failure of the experiments on animals. The same phenomenon meets us, also, in other infective diseases; for instance, in enteric fever and in leprosy, two diseases in which specific bacteria also occur, but which hitherto no one has succeeded in conveying to animals; and yet the mode of appearance of the bacteria in these diseases is such, that they must undoubtedly be regarded as the cause of the disease. The same is true also of the cholera bacteria.

Moreover, the further study of the cholera bacteria has enabled us to recognize several other characteristics which are all in harmony with what is known about the etiology of cholera, and thus must be regarded as an additional confirmation of the correctness of the hypothesis that the bacilli are the cause of cholera.

The most remarkable circumstance relative to this, is the fact that it has been repeatedly observed that when the linen of cholera patients, after being soiled by their dejections, has been kept for twenty-four hours in a moist state, the cholera bacilli are found to have multiplied in a most extraordinary manner. This will account for the well-known fact, that the linen of cholera patients has so often infected those persons who have to do with it. Attention having been called to this observation, further experiments were made, and it was found that the same phenomenon occurred whenever cholera dejections, or the intestinal contents of cholera cadavers, were spread upon linen or blotting paper, kept moist,

and especially upon the surface of damp soil. In twenty-four hours the thin film of mucus was invariably found to be completely converted into a thick mass of cholera bacilli.

Another very important quality of cholera bacteria is that they die off after drying more quickly than almost any other form of bacteria. As a rule, even after three hours' drying, every vestige of life has disappeared.

Another peculiarity is that they will only grow in alkaline cultivation-fluids, even a very small quantity of free acids, which would have no tangible effect on the growth of other bacteria, delaying their development in a striking manner.

In the healthy stomach they perish, which will account for the fact that over and over again it has been found impossible to detect them in the stomach or intestines of animals, which had been fed for a considerable period on cholera bacilli, and then killed. This last characteristic, together with their slight power of resisting drying, explains what daily experience teaches us, viz., that infection so seldom follows upon direct contact with cholera patients or their ejecta. Evidently other peculiar circumstances must be present, in order that the bacilli may be placed in a position to pass through the stomach, and then to produce the cholera processes in the bowel. Possibly, bacilli can pass uninjured through the stomach, when digestion is disturbed, a hypothesis supported by what is seen in all cholera epidemics, and uniformly noted here in India, viz., that those men are especially liable to cholera who are suffering from indigestion. Perhaps, however, some special condition under which these bacteria may occur, and which would be analogous to the persistent condition (*Dauerzustand*) of other bacteria, may enable the cholera bacteria to pass the stomach uninjured.

It is not probable, it is true, that this change consists in the production of persistent spores, for such spores have been found to retain life for months and even years, whereas the cholera poison does not remain active longer than about three to four weeks. Nevertheless, it is quite conceivable, that some other form of persistent condition exists in which the bacilli can remain for some weeks alive in a dried state, and in which they are also in a position to resist the destructive influence of gastric digestion.

The conversion into such a state would then correspond to what Pettenkofer has described as the maturing of the infective matter of cholera. Hitherto we have not succeeded in discovering such a persistent state on the part of the cholera bacilli.—*Medical Times and Gazette*, March 22, 1884.

THE GARFIELD MEMORIAL HOSPITAL.—The staff of the Garfield Memorial Hospital at Washington has been constituted as follows:

Consulting Surgeons.—Drs. Fred. May and N. S. Lincoln.

Consulting Physicians.—Drs. W. W. Johnston, J. Taber Johnson, and A. Y. P. Garnett.

Attending Surgeons.—Drs. C. E. Hagner and J. H. W. Lovejoy.

Ophthalmologist and Otologist.—Dr. Swan M. Burnett.

The Board of Directors hopes to be able to open the hospital in May.

JEFFERSON MEDICAL COLLEGE.—The Annual Commencement of the Jefferson Medical College was held on Saturday March 29th. Two hundred and fifteen graduates received the degree of Doctor in Medicine.

MEMPHIS HOSPITAL MEDICAL COLLEGE.—The annual commencement of the Memphis Hospital Medical College took place on February 29. Diplomas of Doctor in Medicine were conferred upon twenty-three graduates.

THE LITTLE ROCK MEDICAL COLLEGE.—The annual commencement of this College was held on March 3. The degree of M.D. was conferred upon thirteen graduates.

THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA.—The annual session of this Society will be held in the city of Selma on Tuesday, April 8, and continue four days.

MEDICAL SOCIETY OF THE STATE OF TENNESSEE.—The fifty-first annual meeting of this Society will be held at Chattanooga, on Tuesday, April 8.

RUMFORD CHEMICAL WORKS.—The United States Circuit Court in Maryland has decreed a perpetual injunction against certain parties, restraining them from imitating the labels of the Horsford's Rumford Yeast Powder, and also from using their old bottles.

RITTER VON SCHMERLING'S JUBILEE.—On Monday, March 10th, the fiftieth Doctorate Jubilee of DR. RAINER RITTER VON SCHMERLING was celebrated in Vienna. Congratulatory addresses were made by prominent members of the Vienna Faculty, and by representatives from various scientific and social societies.

HEALTH IN MICHIGAN.—Reports to the State Board of Health for the week ending March 22, 1884, indicate that intermittent fever, scarlet fever, and remittent fever have increased, and that inflammation of the kidney and neuralgia have decreased in area of prevalence.

Including reports by regular observers and others, diphtheria was reported present at fifteen places, scarlet fever at twenty-three places, and measles at seven places.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MARCH 25 TO MARCH 31, 1884.

HAMMOND, JOHN F., *Colonel and Surgeon*, now in New York City on sick leave of absence, will, after the expiration of his sick leave, await orders in that city.—*Par. 8, S. O. 70, A. G. O.*, March 26, 1884.

MEARNS, EDGAR A., *First Lieutenant and Assistant Surgeon.*—Assigned to duty at Fort Verde, A. T.—*Par. 1, S. O. 22, Headquarters Department of Arizona*, March 19, 1884.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*